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CONTRIBUTED ARTICLES

Improving the Race of Honey-Bees.

BY REV. L. J. TEMPLIN.

It seems to be the consensus of opinion among bee-keepers that improvement in the honey-bee is a consummation devoutly to be wished. That this is practicable admits of little doubt. Indeed, there have already been such improvements in modern times as to give lively hopes of still greater advance along these lines in the near future. In order that time and effort be not thrown away, it is important that all such efforts in this direction shall be based on intelligent, scientific principles.

Two general laws lie at the foundation of all propagation of organic beings. These are, first, the tendency of all offspring to resemble, in all essential qualities, their parents. This law is embraced in the axiom, "Like begets like." The second law referred to consists in the well-known fact that there is a tendency in every individual to vary in slight particulars from all other beings of the same species.

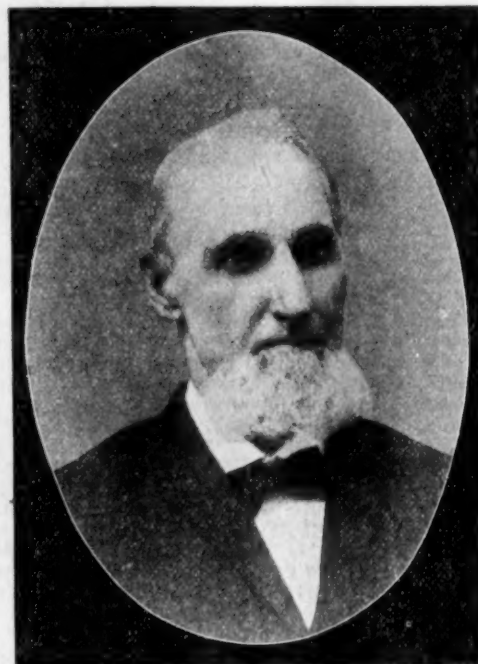
By the first of these laws we know with a certainty, within certain limits, what the result of the mating of two animals will be. We know that the offspring will resemble, in all essential characters, the parents from which it sprang. Any violent departure from the specific type is considered a monstrosity, and is rigorously destroyed—in nature, by the uncongenial environment, and in domestication, by the will of the breeder. It is to the second law mentioned above that we must look for the means for improving any race of domestic animals. It is only to a very limited extent that we can control or influence these variations. Yet, by food, shelter, etc., we may do something towards improvement. But it is by careful observation and grasping and fixing the variations that are continually arising from the operation of occult laws, of which we know nothing, that the breeder may make progress towards the goal that he seeks. It is by seizing these slight variations and adding them up in certain directions that progress may be made.

To become an eminent breeder of improved stock of any kind requires a nicety of discrimination, and a correctness of judgment possessed by comparatively few. What may be accomplished by this method, of the accumulation of slight variations, is seen in the different races of domestic animals. There is little doubt but that the different breeds of horses, cattle, sheep, swine, poultry and dogs originated in a single source for each species respectively. It is perhaps somewhat difficult to conceive that the difference between the extremes of some of these races, as that of the Shetland pony and the Percheron or Clydesdale horse, or between the greyhound, the Newfoundland and the spitz or poodle dogs could be the result of breeding and selection along different lines of variation. But the differences are great they do not amount to specific value. Indeed, divergences greater than these may exist without exceeding specific limitations. Mr. Darwin says:

"Altogether at least a score of pigeons might be chosen,

which, if shown to an ornithologist, and he were told that they were wild birds, would certainly be ranked by him as well-defined species. Moreover, I do not believe that any ornithologist would in this case place the English carrier, the short-faced tumbler, the runt, the barb, pouter, and fantail, in the same genus; more especially as in each of these breeds several truly-inherited sub-breeds, or species, as he would call them, could be shown him. Great as are the differences between the breeds of the pigeon, I am fully convinced.....that all are descended from the rock-pigeon (*Columbia livia*)."

All these differences, wide as they are, have been produced by the selection of those individuals that varied in the direction of the chosen standard, while those that varied in the wrong direction, or that failed to vary in any perceptible degree were rigorously excluded. Now it seems probable that the different races of hive-bees were produced by this same process of selection, aided by the influences of environment. Some have regarded the differences existing among the bees



Rev. L. J. Templin—See page 169.

of Europe and western Asia as of specific value, but there seems to be no good reason to consider them so. These differences consist in variations in size, form and color, but they are but little greater than are found to exist between individuals of the same race; and certainly not to be compared with the differences existing among the races of higher animals. The fact that such marked variations should have been produced by the art of man in the past shows the plasticity

of the nature of these insects, and is a guarantee of the success of intelligent, persevering efforts for their improvement in the future.

The first thing for the man who would strive for the improvement of our common races of bees should be to determine along what lines his efforts are to be put forth. Second, he should have a clearly-defined idea of the end he wishes to attain. Third, he should have a settled, definite plan by means of which he expects to reach the desired end.

Suppose he wishes to improve his bees along the line of honey-gathering qualities. This end he hopes to reach by developing a strain of bees with longer tongues than ordinary bees have, that they may gather nectar from flowers with corollas too deep for ordinary bees to reach. There is doubtless a minute difference in the length of the tongues of different strains or colonies of bees. Our breeder would naturally select for the beginning of his experiment the colony with the longest ligula that could be secured.

Now the bee-keeper finds himself at a disadvantage as compared with the breeder of common races of farm stock. It is quite probable that in their efforts to reach to the bottom of deep flower-tubes the tongues of worker-bees often become more or less elongated. Now, if these same workers could propagate their species this lengthened ligula would probably in some cases be transmitted to their offspring, as is often the case with acquired properties. But the worker is sterile, so we must go back to the mother-bee, that probably never makes any effort to increase the length of her tongue. Any progress along this line must be sought in the drone and queen progeny, and can result only from such slight variations as are spontaneously or naturally produced by the operation of unseen and unknown forces influencing the systems of the parent bees. When a queen is found whose worker progeny show superiority over other bees she is to be used for rearing other queens, some of which we may expect will give workers with still longer tongues.

By continuing this process of breeding and selection it is reasonable to suppose that in a few generations a strain of bees may be developed that will readily work on red clover and other deep-celled flowers, to the great benefit of the bee-keeper. Selection may be made by measuring the tongues of the workers or by observing those bees that work on the longest-tubed flowers, and finding the hive to which they belong, and choose it for a starting point in improvement. Improvement in any other direction may be secured by pursuing the same course towards any other desired end.

San Diego Co., Calif.



A Few Comments "Pro Bono Publico."

BY "COMMON-SENSE BEE-KEEPING."

I am not employed to answer questions nor to criticise articles, but I feel constrained to make a few remarks, and with the clemency of the editor, here they are:

THAT GRAFTING-WAX RECIPE on page 22 seems wide of the mark, compared with what I learned from a grafter about 40 years ago, and I have also seen it published in nursery recipes, and have also talked about it with nursery-men and grafters at various times, and supposed it was the universal rule. The proportions are (whether taken in pounds or ounces) four of rosin, four of beeswax, and one of tallow. Too much tallow will make it melt easily by the sun, and drip off from the tree.

TRANSFERRING BEES.—In that new way of transferring, given on page 5, the danger is that when the box-hive was set in the ground, full depth, to stay for several weeks, bottom end up, with the new hive over it, a big rain storm might come along and fill the hole and old hive itself full of water, and drown everything therein that couldn't climb for the new hive. That would be "drowning out," and not transferring. The delusion lies in supposing that the bees decamp from the old hive, and went to the new one on account of the way they were fixt. It will be noticed that Mr. Delmotte's job was put up right in the light of the swarming season, and more than likely the old colony was about to cast a swarm, and it did, and the swarm went to the new hive rather than to a tree, just as they might have done if the old hive had not been disturbed. Then in 25 days, when the young brood would all be hatcht, the old hive could be shaken out clean, and the bees put into a new one or united with the other swarm with less than half the labor that was consumed in fussing with the other way.

BEES FREEZING.—It is a great mistake to say that "bees can't freeze to death." Many thousands could testify to the

loss of weak colonies in cold winters with no visible cause but that *they perisht by reason of the cold*. In such cases they creep into the cells as close together as possible, like persons covering their heads in a cold sleeping-room. It may be said that "bees hibernate," but the proof is all on the other side, and every living creature that does not hibernate may be killed easily by the frost below their powers of endurance. Stiffness and numbness of the cold does not prove hibernation with the bee any more than it does with man.

THE SECTION DEPARTMENT.—Mr. Hutchinson, important changes are needed in the section department of the bee-hive. When the right thing comes before the public the bees will fill the sections as readily as they now seek to put their honey above the brood and at the sides of the hive. If the near future confirms what the past has proven, the rightly constructed "anti-bee-space hive" will figure largely in the reform. Pennsylvania.



Feeding Bees—When, What and How to Feed.

BY C. P. DADANT.

I once sold a colony of bees to a friend in the month of May. The apple-bloom was just over, and the weather had been cold and disagreeable most of the time. (By the way, take notice that when the weather is unpleasant during fruit-bloom, there is much less quantity of fruit than when the weather has been warm and the bees and insects have helped the fertilization.) This colony of bees was strong and full of brood, but had very few stores. After delivering the hive and placing it in a selected spot in this man's orchard, the bees were liberated, and I gave the beginner a few instructions. Among other things I said:

The season is a little backward, the weather cool, and between now and clover bloom you will perhaps have to feed these bees. This remark came like a cloud in a fair sky: "Feed them! What? Feed them now? In May? If they can't feed themselves in the month of flowers, what will they do in winter?"

Friend novice, every old bee-keeper will tell you that the most dangerous time for the bees to starve is just at the eve of a big harvest. An indifferent observer may readily believe that there are plenty of blossoms in the fields from the beginning of spring till the drouth of July without any intermissions. This is not correct. Our gardens may be sparkling with blooms of all colors, and roses without end, but the business-blossoms, those on which the honey-flow depends, do not always or in all places follow one another in close rotation. After the willow, the maple and the hazel, there is an interruption. There is another after fruit-bloom. These different plants furnish the colonies just about enough nectar to induce them to rear brood to their utmost capacity, and more honey is consumed than at any other season. Hives that were rich in the fall may have been examined in February and found still heavy with stores, but in March the hive is already much lighter, and by May 1 it often happens that the last drops of old honey reach scarcely to the fresh nectar. A difference of a few degrees in latitude will only change the time of breeding, and the time of blossoms, by a few days or a few weeks, but the result is similar. There is a scarcity just when the colony is most in need of a plenty, and if the queen is very prolific, and the winter supply has not been very great, more attention is needed at the time when it would seem that care was superfluous.

Between fruit-bloom and clover-bloom, in this latitude, we often see three or four weeks when very little is to be had. In favored locations the locust, the gooseberry, the raspberry, and some other shrubs may keep up the larder of the bees, but a few rainy days, when the hive is full of bees, will often cause them to use up their last drop, and, if no succor is at hand, they may be compelled to throw out the brood. The drones are still in the larval state, they seem already to know that they will be useless and fit only to eat the surplus, for they methodically begin by casting these out first. Whenever you notice them carrying out these white drone-grubs, you may know something is wrong, and if nothing is done, and the weather continues unpleasant, or the bloom continues scarce the worker larvae will go next. Even tho I am an enemy of drones, as my readers have surely perceived ere this, I do not think it well to advise any one to let this hecatomb continue, for while they are destroying the drones, they are stinting themselves, and their queen is likely to relax or perhaps discontinue her laying at a time when her eggs are worth three times more to the colony than all the honey they will need. Bees are not wasteful creatures, and if too much is

fed to them at this season it is not at all lost, tho it would be an error to crowd them with a surplus at a time when the crop is so near.

Let us watch our bees at all times, but mostly when they are the richest to a bountiful crop. If a fair allowance has been left for winter, they will still have plenty when the snow disappears. But for awhile after that you will see them carrying in pollen and water, and so little honey that it is a wonder that their stores do not diminish more rapidly.

There are plenty of seasons, tho, when instead of being short they increase their surplus out of every bloom. If the winter is fair, the weather propitious in the spring, they may begin to put honey in the supers even out of fruit-bloom. But such seasons are exceptional.

Strange as it may seem we have lost more bees from starvation in June, within a week of the opening of a good flow of clover, than at any other season, winter included. But in June, as in winter, if the bees starve it is the apiarist's fault. Rainy, cloudy weather, if protracted for four or five days, will often reduce the very finest colonies to the verge of starvation.

WHAT TO FEED TO BEES.

In the fall when the bees have to be put into winter quarters, and they need a supply, our aim is to give them this food as fast as possible, so they may not consume too much of it in breeding. The food is also wanted to be as compact as possible. If first-class honey is not at hand, the very best possible feed may be prepared with granulated sugar diluted with half of its weight of hot water and mixt with about one-fourth or one-third of the quantity of good honey to keep it from crystallizing in the cells. This feed is even better for the bees than average honey, and some of our over-zealous theorists at one time advised the removal of all the honey from the hives and replacing it with this feed. But it is bad enough to have to feed when your bees are short without giving yourself the trouble of removing the honey for the problematic and uncertain gain that might be realized from feeding back sugar syrup.

Bees wintered in the cellar may very well be fed through the winter with cakes of ordinary sugar-candy laid over the cluster. But the most important feeding is at this season of the year, between spring and clover bloom, for on it a great part of the success depends. If our colonies are rich in stores it is well, but they should breed plentifully, and we must urge them to this. A spoonful of warm feed is often very stimulating. The feed should be thinner than in the fall, for water is needed to rear brood, and they can use much thinner honey than in the winter. The nectar that they harvest from the blossoms is often thin enough to run like water from the combs when they are handled, and the feed given to them may well be as watery as this.

In the spring feed little, but feed often. It is better to keep them breeding by repeated feeding, but the quantity should be small, so they may not fill their cells with food that should be occupied with brood. Do not overfeed your bees, but be sure they have enough to keep on breeding all spring.

HOW TO FEED THE BEES.

We use the Hill atmospheric feeder. It is simple and good. An inverted can with a cover pierced with little holes is placed right over the brood-combs. The bees do not have to displace themselves to reach their food, and can get it in any kind of weather. Much or little can be given, and it is away from the entrance where robbers are prone to lurk.

The worst feeder of all is an out-door feeder in which you feed your bees and anybody's bees that may be about. The next worst is an entrance-feeder. Hancock Co., Ill.



Working Up an Appetite for Honey.

BY A. F. FOOTE.

I am a farmer, and began keeping bees about 15 years ago with only the idea of supplying my own table with that most exquisite of all sweet—honey. Without the aid of any bee-literature, I have been successful beyond my most sanguine expectations; and now, that I have arrived at an age when physical labor, on the farm, is practically out of the question, I find easy, pleasant and quite remunerative employment with my bees. Having noticed several articles on "marketing honey," I would like to give my method, which has always exhausted the supply ahead of the demand.

In the first place, I keep a "guide-board" by the roadside, informing the passer-by (who, by the way, on account of it, does not always pass by) that I have honey to sell, sometimes giving the price and sometimes not, as I think best.

This brings a good many customers outside the immediate neighborhood, and for whom, of course, it is intended. With this class, and my neighbors, I always let the scales tip in favor of the customer, who is always sure of good weight.

We have a good deal of company, and the very best honey is *always* on the table at meal-time. I will not say that there is not a little "policy" in this, too, as a visitor frequently says before leaving: "I think I will have to take a dollar's worth of that honey; it is very fine."

I keep two or three stores in as many villages supplied, taking goods in exchange, the merchants buying it outright, and sell it for the same price they allow me, making their profit on the goods I take.

Again, I work a little advertising scheme once or twice a year with the church socials, in which I am not the loser at least. It is given out as extensively as possible, that a certain evening "There will be a 'Honey Social' at the residence of Mrs. ——. Supper, 10 cents. Warm biscuits and honey 5 cents extra." I furnish the honey, and the proceeds all go to help pay the minister.

My aim from the start has been to "work up an appetite" for my honey, even if I have to *give away* a section or two here and there. The result is that I am not able to supply the home demand, notwithstanding there are four or five other quite extensive apiaries within a few miles.

Mitchell Co., Iowa, Jan. 18.



The Bees, Not the Queen, Order the "Walk-Out"—Stores for Winter.

BY B. T. STONE.

In 1894 a bee-keeper in Florida asked the following questions in the American Bee Journal:

"When bees swarm, which order the walk-out, the queen or the workers?"

I was not one of the many that answered this question, but I can now answer it to the complete satisfaction of any person. July 19, 1897, I opened a 10-frame hive to examine it for a disease that closely resembled foul brood, and I removed three of the middle frames, placing these in an empty hive fully 4 feet from the hive that I was going to examine, and after I had them nicely placed in the empty hive, I then commenced to examine the remaining seven frames, and to my great surprise a swarm commenced to issue from the three frames in the empty hive, and while the bees were swarming from the three frames, the bees on the seven frames, fully 4 feet away, remained quiet; but after they had all swarmed from the three frames, the bees on the seven frames caught the excitement, and they rolled out of the hive by the thousand.

Now, I am positively certain that the bees on the three frames ordered the walk-out, and I am equally certain that the queen was not on either of the three frames, for I examined them carefully before I placed them in the empty hive, and after the swarm was in the air I again examined the three frames, and not a queen was to be seen. I quickly returned the three frames to the hive and closed it, but I did not get it more than closed when the swarm returned to the hive. As quick as the swarm returned, I opened the hive, this time to look for the queen, and I found her on the outside frame. This experience will forever convince me that the bees order the walk-out, and not the queen.

In 1896 I had a colony to cast a prime swarm at 4:30 a.m. It was so dark and cloudy the swarm could not be seen 100 feet away. I have been a bee-keeper eight years, and I have only lost five colonies during the winter. I know now how to winter bees without the loss of a single colony. Bees will winter far better on good, thick syrup, made of granulated sugar, than they will on the best of honey. I have had colonies in October robbed of the last drop of honey, and would feed them good, thick syrup, and these colonies would come out in the spring and do better in every way than colonies wintered on the best of honey. Preston Co., W. Va.



Complete Volumes of 1897.—We have on hand about 30 complete volumes of the American Bee Journal for 1897, which we will mail to any one upon receipt of 60 cents. We also have about the same number of the first six months' copies of 1897, which we will mail for 30 cents. As there were 832 pages of the Bee Journal last year, here is a chance for our new subscribers to get a good deal of valuable reading-matter for a very little money. Better order at once, before they are all gone.

CONVENTION PROCEEDINGS

Report of the Northeastern Ohio, Western New York, and Northwestern Pennsylvania Bee-Keepers' Convention.

BY ED JOLLEY.

This Association convened at Corry, Pa., Jan. 12 and 13, 1898. The usual business preliminaries disposed of, a general informal talk on bees was in order.

FOUL BROOD.

Mr. Spittler started the mill with the question, "Does any one know of a foul brood law in the State of Pennsylvania?" No one knew of any such a law, but all were agreed that there should be such a law in every State.

President Dewey asked if any one knew of foul brood in his vicinity. No one knew of it at the present time. Mr. Edgett's bees had had foul brood a few years ago. "It was caused," he said, "by the bees in some hives being accidentally smothered. Having brood in all stages it chilled and rotted in the combs. These combs were given to other colonies, thinking they would clean them properly, but the brood that was subsequently reared in these combs developed into foul brood."

Mr. Nichols thought foul brood might be caused by the injudicious spreading of brood, allowing it to become chilled and rot in the combs.

Mr. Sutton thought that the spraying of fruit-trees while in bloom often killed off the bees to such an extent that the brood was chilled and subsequently caused foul brood. All present, however, did not concur in the opinion that foul brood could be spontaneously germinated, and thought that in a locality entirely free from the disease chilled brood could not possibly cause it.

BROOD-FRAME COVERING IN WINTER.

"What is the best covering for over the brood-frames in winter?"

The majority used burlap or other cloth that would permit moisture to escape. Mr. Sutton used enameled cloth, the enameled side toward the bees. Mr. Nichols had the best results by using a board over the frames, putting it on and allowing the bees to seal it thoroughly. Messrs. Sutton and Nichols both used a heavy packing on top of their sealed covers. Mr. Dewey used a rim covered with cloth, over which he laid felt wrapping, such as is used for covering steam and water pipes, it being a non-conductor of heat and cold. Mr. Peck used a box larger than the hive; setting the hive in the box, he packed the space between the hive and the box with chaff, and also put six inches to a foot of chaff on top of the hive.

EXAMINING COLONIES WITH SEALED COVERS.

The question arose as to how those using sealed covers examined their bees during the winter.

Mr. Nichols always tried to be sure that his bees had honey enough to carry them through, and then trusted to luck.

Mr. Sutton could tell about all he wanted to know in winter by putting his ear to the outside of the hive. If the bees were quiet, or he heard a low, even hum, he felt reasonably sure they were all right. But if every now and then he heard a sharp, plaintive note, he was apprehensive.

Mr. Edgett examined his bees at any time during the winter or summer that he wanted to know how they were getting along.

Mr. Peck would not disturb his bees during the winter, not even by walking through his apiary, if there was a frozen crust on the snow. In fact, if he caught a person walking through his apiary at such a time he would order him out.

The President's annual address was now delivered by Pres. Dewey, in which he expressed his pleasure at meeting those present, and extended his best wishes that success might crown our future efforts.

Mr. Spittler next read a paper on

Spring Management of Bees.

If the conditions necessary for successful wintering of the bees was complied with the fall previous, spring management will be, as a general thing, a very simple matter. Of course,

bees must have the needed attention at the right time, even if they come through the winter in the best possible condition.

Some of the colonies will have consumed double the stores that other colonies have by consuming stores in brood-rearing or some other cause or causes. They will have to be attended to—perhaps fed—while other colonies will have abundant stores, too much perhaps, and will need frames of honey taken to be replaced by empty ones so as to give the queen plenty of room for depositing eggs. Without this precaution early and small swarms may be the result, but oftener the hive is too short of stores, even with strong colonies.

In no case should bees have more combs than they can well cover in the spring, if it is desired to build up colonies for the early honey-flow, whatever that may come from. So in most cases contraction of the brood-nest will have to be practiced for best results. But, says one, "That will be fussing too much." Perhaps it will, but as heat is one of the necessary conditions for brood-rearing, heat must be provided; this can only be done by contracting, especially in small colonies. A weak colony with a good queen can be built up to a strong colony if taken in hand in time.

When bees are examined—overhauled—in March, if the weather is warm enough to contract the brood-nest so that brood-rearing can commence, a weak colony should have but three frames at first, and one of these should be full of honey. If the cappings next to the center are broken a little to start up business, all the better. The next time you handle break some more cappings, perhaps on the outside of the comb this time would be best, especially if more than two weeks since first handled.

Then follows expanding the brood-nest, which must be practiced with great caution, and in weak colonies it should not be done until young bees hatch out in pretty large numbers so as to be sure that chilled brood will not result. By adding combs from time to time, and feeding all that will be necessary to keep the queen busy, the very weakest colony can be built up, but better not have weak colonies.

By providing water in abundance in a warm location—in a sunny place protected from west winds—much may be done to prevent spring dwindling. By not giving more combs to the bees than they can cover, the wax-moth, so much dreaded by many bee-keepers, can do no harm. GEO. SPITTLER.

Mr. Dewey had some dark honey which he wished to utilize in the spring to the best advantage. He queried as to whether it was best to feed for stimulating brood-rearing to colonies that had an abundance of honey in their hives, or whether it would be better to feed it so as to fill the brood-combs just before the white honey-flow. The majority thought the stimulative feeding would pay the best. Mr. Peck thought that if he filled the combs with the dark honey just before the white honey-flow, the bees would carry it up into the supers where it would do more harm than good.

The prevention of swarming was next considered. Mr. Nichols' plan was to give plenty of super room in time. He practiced clipping the queens; the first year he clipped one wing, the second the other, and the third he superseded the queen. Mr. Sutton gave room underneath the brood-nest to prevent swarming.

The next on the program was a paper by Mr. L. K. Edgett, on

Management of Swarms.

This subject is one prolific of discussion, and I can do no more than give the method, as it has been a success with me and others who have used it in this locality.

It may be well to give my reasons for its use. With black bees I found the Heddon plan would prevent all after-swarms, but with Italian, Syrian and Carniolan in many instances it only delayed them a few days, and if I cut out all queen-cells but one, left the hive crowded with young bees that had no work, as there was no brood to nurse or comb to build, they would hang out until the young queen began to lay, or they were old enough to go to the fields, and this time was lost.

Here we have a short honey-flow, generally, and not very heavy. Colonies that swarm store very little or none after swarming in the June honey-flow. I do not advise the use of this method in May or August, but on swarms that come at the beginning or during the June flow. When a swarm issues during this time, I hive it in a hive contracted one-fourth, and set it in the place of the old colony, leaving the colony beside it turned at right angles or moved in any way to throw the working-force into the new swarm. The third day after, put the supers from the old hive on the new swarm, and move the old hive so that the entrance comes close to that of the new swarm. This can be done a little at a time, or all at once, as best suits the operator. Leave the hives in this position until

the seventh day, then take the frames from the old hive. Shake nearly all the bees down in front of the new swarm, and cut out all the queen-cells but one. Then move the old colony to a new stand to build up for buckwheat. You then have a colony that will store surplus if there is any to be gathered.

I have used hives containing eight frames $8\frac{1}{2} \times 11\frac{1}{2}$, and from that up, and I find this works best with large hives.

L. K. EDGETT.

THE MARKETING PROBLEM

was next considered. All present were agreed that the prevailing low price of honey was not due to over-production, but to a class of slovenly, careless bee-keepers, whose chief success was in spoiling the market. Their honey was not worth more than they got for it; but the price paid for it was the ruling price for the season. The only remedy suggested that seemed feasible was by co-operation, and have a bee-keeper in each neighborhood to buy up all this honey and then keep the market supplied, but not overstocked.

HOUSE-APIARIES.

Mr. Dewey next gave a talk on house-apiaries. His house-apary is built after the plan of Mr. Langdon's, as described in the Bee Journal for 1895, except that Mr. Dewey made his wider than the Langdon plan, having room for his supplies and fixtures inside. He likes it better than an out-door apary for several reasons. The operator is protected from the hot sun; he can open a hive without fear of robbing; can feed a colony at any time without other bees having access to it; and can lock the door, thus making it safe from prowlers. Its most serious drawback is the loss of young queens at mating time, the hive-entrances being so close together and so much alike.

The Secretary next read a paper written by Mr. N. T. Phelps, on

Progress of Bee-Keeping.

It was probably a mistake to put me down for a paper on the progress of bee-keeping, as I am no writer, and am also one of those who believe it better to put forth one's energies to keep up with the present than to begrim one's hands with the musty records of the past. This places me a little out of my element, but as the task has been assigned me I will do the best I can. The old-time methods of bee-keeping will be mentioned not because they will be new to any members present, but to recall those things and place them in comparison with the present methods, and thereby provoke discussion in practical things that concern the present day.

I now recall no pursuit that has made the advancement that bee-keeping has in so short a time. A few years ago the ordinary bee-keeper knew very little of the natural history of the bee, and almost nothing about proper hives and appliances. Perhaps I can mention no old thing or any new thing that is not known to every member present, but let me compare a few things used and believed then, with a few things used and believed in now.

When I was young I lived very near one of the best old-time bee-keepers in all the country. He kept a large number of colonies, and it was believed that his would rob and carry home all the bees in the neighborhood. It was of no use for any one else to try to keep bees near him, because his family lived together in greater peace and happiness than any one else, therefore his bees were more loyal to him than to any one in the neighborhood. To-day we know that a good, strong colony in a normal condition will hold their fort against all comers. Give them plenty of honey to gather from the fields, and they don't care if a man does quarrel a little with his wife or mother-in-law. This old bee-keeper's hives were made of rough board boxes or hollow logs sawed off, and two cross sticks put through them, and he never saw the inside of one of them from the day the swarm was shaken off the branch in front of them until they died from some cause that the modern bee-keeper with his movable-frame hive ought to be able to prevent.

The bees themselves seem to have made a great deal of advancement, too. Then they were ruled by a "king." They had to do everything as he commanded, some were soldiers at his command, some stored honey at his command, some gathered bee-bread to live on at his command, others made wax at his command, and when he died they mourned themselves to death for him. Now the colony has no government at all. Every bee is so good and patriotic that each bee does just exactly right every time—does just exactly what is best for the colony under all circumstances.

My neighbor bee-keeper used for surplus honey a box 6×12 inches, also made of rough boards, sometimes with a

hole in one end covered with a piece of broken glass. Auger-holes were bored in the top of the hive to match, and the box was then set on top of the hive. When the bees got ready—if the family were real good—they would fill this box with honey. The honey was gotten out by prying off one side of the box, usually the bottom, and then cutting it out with a knife. When the honey was sold to a neighbor this box was saved and sent back to the bee-keeper. Quite a contrast with the present method of using one-piece sections. Then that honey sold in those boxes for 25 cents per pound—sometimes as high as 30 cents per pound. Now a net price of 12 cents is quite up to expectation. I don't quite see the progress in that, do you?

The first attempt to make any kind of a comb-guide that I know of, was by pouring melted wax through one or two of the holes in this box and letting it run lengthwise of the box, making a little ridge of wax along the top of the box, when it was then set on the top of the hive. Contrast this with the foundation we use to-day, and the attempt at drawn comb. We know the foundation we have been using is a great success. It is to be proven whether drawn comb will be as much of a success in the hands of the average bee-keeper. This much, however, we do know, that it is one of the greatest mechanical achievements of the present day.

About the year 1856 the "old bee-keeper," before mentioned, had 170 colonies around three sides of a yard, on benches. The next spring he had not one live bee left. His neighbors surmised that he and his wife had quarreled, therefore the bees had left. But along in the next summer when the benches were moved so as to mow the weeds, the remarkable discovery was made that the worms had driven the bees out of the hive. He also remembered that he had seen a good many bees coming out of the hives along in the latter part of the winter, but he never thought to blame the worms for it at the time.

Now every up-to-date bee-keeper knows whether his bees have enough stores to winter on, and if short of stores supplies them with enough to last them until more can be gathered. Then the "king" ruled his lifetime; now the queen is removed whenever her usefulness begins to wane.

Many more things could be mentioned, but this is enough for one convention. Mention of some things might be made that I am afraid are not progress in bee-keeping. One of them is the Hoffman frame. While I believe in a distance-keeper or spacer, I want the frame so movable that any frame can be readily taken out. We owe almost all of this advancement in bee-keeping to a readily movable frame. When the frame is less movable bee-keeping will not be as scientifically attended to.

Another thing is the "fence" and no-inset section. I have had experience enough to know that many more sections of honey will be damaged in handling and shipping without insets than with.

N. T. PHELPS.

The following officers were elected for the ensuing year: President, George Spittler; Vice-President, H. S. Sutton; Secretary and Treasurer, Ed Jolley, of Franklin, Pa.

Franklin was chosen as the next place of meeting, and the time selected is Jan. 11 and 12, 1899.

ED JOLLEY, Sec.



Report of the Northwestern Bee-Keepers' Convention, Held in Chicago, Nov. 10 and 11, 1897.

REPORTED BY A SPECIAL BEE JOURNAL REPORTER.

(Continued from page 151.)

SECOND DAY—FORENOON SESSION.

SWEET CLOVER DISCUSSION CONTINUED.

A Member—Is the National Bee-Keepers' Union helping Dr. Besse in his lawsuit?

Pres. Miller—I am one of the Advisory Board of the National Bee-Keepers' Union, and if they have offered any help to Dr. Besse I don't remember anything about it. I don't think that is the case. Dr. Besse, has the National Bee-Keepers' Union promised to do anything in the case?

Dr. Besse—They have promised to stand by me. Mr. Newman and I corresponded, and he said they would assist me.—[In the annual report of the National Bee-Keepers' Union, it states that Dr. Besse has received \$75 toward the expense of pushing his suit.—EDITOR.]

Mr. Baxter—I sympathize with Dr. Besse, and I think it would be proper to help him under certain conditions, but I

maintain that the National Bee-Keepers' Union, or any other Union, as far as that is concerned, cannot do anything unless he has been attacked under color of law. Then it is their duty; otherwise, not.

Mr. Stone—I do not believe that it is any of our business to interfere unless it is a State law, and then I would like to see the Union go in and contest that law, and see whether it could stand, to make sweet clover a noxious weed. I wouldn't care if it cost \$5 to every member of the Association, as far as I was concerned.

A Member—Sweet clover has been grown in our county (Kendall) for 25 years. It was sowed there on the streets and on the roads by a man for his bees. And from that day to this I believe that the farmers in the neighborhood have been fighting it, and I believe they are fighting it stronger to-day than ever before. The people for miles around my town believe that sweet clover is equal to Canada thistle. Nothing that has ever been written or said seems to affect it.

Mr. Karch—There has been something said about sweet clover which I do not agree with. It doesn't act the same in our locality—Will county. I remember in my boyhood days it was very seldom we saw a plant anywhere. I remember seeing the first one in our garden; it was there for a curiosity. The roads in our locality now are covered in some places, and you can notice the difference, year by year, where it extends further and further. I won't allow sweet clover to grow on my farm any more, not much more than I would Canada thistle. I hate to have anything spread on my farm which is not under my control. The highway commissioners are very careful in cutting sweet clover on the roadsides, and you ought to see what a beautiful blossom there is; the bees as much as two weeks ago were working on that sweet clover on the roads. It is in fine blossom to-day, and I don't believe there is any more killing sweet clover by cutting than there is by pulling the bloom off with a rake.

Pres. Miller—Localities differ. I have a little place of about 40 acres. I sowed over I think about 25 acres with sweet clover, sowed it on grass and everything as it was, simply scattering the seed over the ground. That was perhaps 15 years ago. I tried to encourage its growth all I knew how during that time. This year perhaps on that 20 or 25 acres there may have been half an acre of sweet clover. So you see it doesn't spread so very fast on my place. I have had it die out entirely where I sowed it and tried to keep it—just gave it the same treatment that I would red clover, had a stand come up and have every appearance of being good, except a rather weak growth, yet next spring there wasn't a plant of it there, not one. Yet it flourishes on the roadside.

Mr. Whitcomb—Three or four years ago I noticed all over the northern part of this State, when the pastures were entirely gone, that the farmers were maintaining their stock on the sweet clover on the roadsides. And during those dry years out about Grand Island, Nebr., had it not been for the sweet clover growing on the roadside poor people would have had to sell their cows. Isn't a plant that is so hardy valuable? Isn't it of some value to cultivate as a forage-plant and as a bee-plant? Ought we not to turn in and foster it, and take care of it, and sow it, and put it in a position where it would be of some value? Anything else that came up the farmer community would take hold of and be using as a forage-plant. Something is going to grow along the roadsides, in Illinois and Nebraska, and everywhere there is fertile land in a prairie country. If it is not sweet clover it will be rag-weed or sunflowers. A patch of sweet clover along the road looks a great deal nicer to me than a patch of wild sunflowers. People will pass through sunflowers week after week and never say a word about it, but if they strike a patch of sweet clover they are horrified. Ignorance and superstition are two of the worst evils this country has to deal with. And I have traveled over long stretches of your Illinois country, where if you went a foot your clothing was covered with the pollen from the rag-weed; and it is a villainous weed.

Mr. Baxter—Poisoning the air with its pollen.

Mr. Whitcomb—You sow a little sweet clover there and the whole country is horrified. The nature of sweet clover is not such that it will encroach upon your cultivated land. It may encroach on your pasture a little bit. If it does, you have one of the best pasture plants you ever saw. Let a little patch of sweet clover appear out in your pasture, and you drop your work and go and pull it up and carry it away! Why? Simply because you have not studied the nature of sweet clover, and don't understand that you are destroying one of the most valuable plants that ever grew on your farm, and one that will furnish you pasturage before anything else comes up, and after everything else has been killed by frost.

Mr. Baxter—The Dadants have been growing it for about years; and, as a pasture plant, there is one objection to it.

The cattle eat it so close to the ground that it dies out through the winter, very often!

Mr. Baldrige—Mr. Karch says it is so difficult to get rid of. I gathered seed this year from perhaps two acres of ground, and I doubt very much whether you can find a solitary root alive to-day where I cut. In fact, I have a standing proposition where I live, that if they will let the seed get in the dough state, or cut it in full bloom, that there won't be one solitary root alive the next spring. I will give a dollar apiece for every root that will be alive.

Pres. Miller—Would they be alive if they were not cut?

Mr. Baldrige—No, but the seed would drop. If you want to get rid of it, you cut it at that stage and you get rid of both seed and root. It is the easiest plant in the world to destroy if you once really understand its habits.

Mr. Karch—I will say that our stock in Will county must be educated to the use of sweet clover as a fodder. I have failed to see any cattle in our neighborhood ever touch any sweet clover, consequently they never kill it by eating it close. That is my experience.

Mr. Green—Sweet clover is no new thing with us. Thirty years or more ago at least there was a patch of it in our garden, and for at least 10 years it didn't get 10 feet away from that spot. Within the last 15 years, and especially within the last 8 or 10, it has grown very rapidly, and spreads all through the highways and waste lands of the neighborhood, and the highway commissioners in most of the townships cut it down very religiously; but I am not at all alarmed. I would just as leave they would do it as not, and perhaps a little rather, because they do not understand the nature of the plant, and they either cut it down at such a time that it grows up and makes late pasturage for the bees, or they cut it so that it gives the young plant a chance to grow. So they are not getting rid of it. Within the last year or two I have noticed it encroaching considerably upon hay or pasture land, but of course it does not stand cultivation. In regard to stock eating it, I have a horse that has never been educated to eat sweet clover at all, but if she can get out of the gate at all, she will attack that clover the first thing.

Mr. Schrier—I can remember about six years ago a family came from Michigan, sowed some sweet clover seed, and it spread out in the road, and I think it spread from our town clear down to Cairo, and all the cattle come from town and keep it down from spring till fall. The roads are well supplied with the sweet clover. My stock had no chance to get at it, so I can't speak for my stock. They don't get out in the road, and inside cultivated land I have none there. On meadow it will grow a little so long as it is not cultivated. So I think sweet clover is a good thing for honey, altho I would call it a nuisance on the highway, the way you see it in some places, as high as a horse where it is not cut down, and it looks ugly. But if the stock are around they will keep it down.

Mr. Thompson—I have a neighbor who has pastured two cows with the sweet clover on the roadside all summer long. The pastures were dry, and if he hadn't had that sweet clover they would have starved, or else he would have had to sell them. With regard to the benefits to bee-keepers I know this: In Kane county for the last two or three years it has been so dry that if we had not had an abundance of sweet clover our bees would have starved.

Pres. Miller—I am very anxious that the highway commissioners shall cut it down on the roadside. It is an objectionable plant, because it grows tall and strong for the roadside. It is worse than most plants in that way. Before it gets to that height cut it down, so that it will not leave a very objectionable stubble, which will be still disagreeable after it is cut down, but cut it down before it blossoms, and then you have it out of the way, and I feel very certain it will blossom afterwards just when I want it to. With me its blossoms are worthless during the blooming of white clover, because there is so much white clover I don't care for it. But if it can be cut down and bloom a little later then it is of value as a honey-plant.

Mr. Whitcomb—I can agree with Mr. Karch's statement, that stock won't touch it. Stock must be cultivated to it, in general. There may be an exceptional case when a cow or horse getting it for the first time will eat it. Texas cattle, I am told, must be educated to eat corn. Moreover, cattle must be educated to eat alfalfa.

Mr. Cooley—Can sweet clover be grown for forage and also for the blossom for the bees?

Pres. Miller—Yes, and no. Cut it before the first blossom shows, and it will give you a crop of forage, and will not interfere in the least with it as a honey-plant.

Mr. Whitcomb—In cutting for forage it is necessary to be careful not to cut it low. You must not cut it as low as tim-

othy. If you run your mower right down to the ground the chances are you will kill it entirely.

Mr. Lyman—I would ask if any one knows in regard to the present law in this State, in regard to commissioners cutting the weeds along the roads?

Pres. Miller—I think the law is that they may cut the weeds on the road.

Mr. Lyman—Doesn't it give farmers until Aug. 20 to cut those weeds? I think it does.

Pres. Miller—Perhaps that is true.

Mr. Schrier—They have time till the last of September.

Pres. Miller—Do I understand this, that if you say to the commissioners on your land, Don't touch this until a certain date, that they must concede that?

Mr. Lyman—The farmer, as I understand it, has until Aug. 20, or about that time, to cut the weeds along the roadside, and if he does that he is allowed \$1.25 a day, which is applied on his taxes. If the commissioners cut the weeds after that, the cost of the cutting is charged to him.

Mr. Baldrige—I have heard of such a law before, and a great many farmers where I live availed themselves of its provisions. They would be allowed so much on their taxes the coming year. But I understand that the law did not pass the legislature. It was an act before the legislature, but never became a law. A great many will find that out when they come to pay their taxes—they won't be allowed anything.

Mr. Stone—I don't think there is anything of that kind in the law.

Mr. Green—I think Mr. Baldrige is correct in regard to that law. I remember seeing it in the newspapers a report that such a law had been past, and farmers were notified and advised that they could obtain a rebate on their taxes in that way, but a week or two after that the papers informed that the law had not been past.

Pres. Miller—I think it will be well for us to have a little rest, allowing a chance for those not yet members to become so, and I believe Mr. Cooley has brought a sample section of honey built on the drawn foundation.

Mr. Stone—I would like to say that I have samples of the heads of two kinds of clover that I would like to have the members see. They were sent to me by a gentleman in Australia.

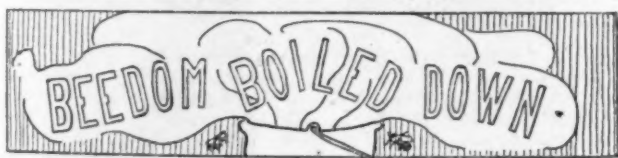
Pres. Miller—What kind of clover?

Mr. Stone—One of them is strawberry clover, and one he called creeping clover. The creeping clover has a seed that is a perfect rosette, and looks as if it were made out of brown paper.

Pres. Miller—It looks almost exactly like the alfalfa seed, only on a larger scale.

Mr. Stone—In those pods there are about five seeds, and for fear I would run out of the seed I planted three seeds out of the five. They are three or four times as large as a red clover seed. They grow very rapidly. Out of the three seeds three plants came, and something killed one, and I got a large teacup of these little pods from the two plants. The strawberry clover has a head just like a strawberry. They have little spots of fuzz on them that look like a strawberry.

(Continued next week.)



Bucket Honey was slow sale at 8 cents per pound this season, while that put up in pint Mason jars brought almost twice as much. Compliments on the good sense of the consumer are in order.—Somrambulist, in *Progressive Bee-Keeper*.

Bees Adapted to the Climate.—The best bee for any place must be one that comes from somewhere in nearly the same latitude, according to J. O. Grimsley, in *Busy Bee*. Carholians coming from latitude 46° are all right for the North, but breed too much in the mild winters of the South. Italians come from latitude 44°, Cyprians from 35°, and Holy-Lands from 31°, so he would choose accordingly.

Bring up the Grade of Extracted Honey, is what Dan White makes a strong plea for, in *Gleanings*. He says: "Every fellow has been extracting and grading to his own notion, without saying a word to the other fellows. I believe we have just

as good a right to agitate the grading of our product as have the comb-honey producers. While they are polishing and sandpapering their sections, say we put such a finish on our extracted honey that we can draw a little attention. You see they are trying to attract the eye, and we will try to attract the palate."

Prevention of After-Swarms.—Put a cone escape at the entrance of the old hive, having previously set the swarm in place of the old hive, putting the old hive close beside it. No bees entering the old hive, only one queen will be left, and when that is ready for fertilization, remove the old hive to a new stand, or dispose of as seems best. F. A. Gemmill says, in *Review*, he has practiced this for five or six years, and J. B. Hall longer.

Bees Select Best Queen-Cells.—M. Jukos says in *Meheszet* Kozlony, that, after careful observation, he finds that bees destroy purposely such larvae in queen-cells as will not mature good queens, reserving only the best. Acting on this hint, instead of taking cells from a colony immediately after the issuing of a first swarm, he waits until four or five days later, and finds he has not only more beautiful queens, but decidedly better ones.

Don't Heat Wax too Much.—L. A. Aspinwall, in *Review*, thinks there is danger of getting too great a heat in melting wax, even in a sun-extractor. Over 212° the tendency to soften propolis so it mixes with wax is much increased. For this reason he paints his extractor white, outside and in. This is better for the wood, too, than black. A. C. Miller says many a lot of fine wax has been spoiled, or very much darkened, by allowing the water in which it is melted to boil together with the wax.

Telescoping Hive-Caps over sections are valued by Doolittle. "On cool mornings where there is only the one thickness of lumber between the outside air and the sections, we will find that the bees have stopt work in the sections and very largely gone below, while with the telescoping cap, the bees are enabled to keep up sufficient heat so that comb-building is going on the same as it was the evening before." And nearly the same thing on extremely hot afternoons.—*Progressive Bee-Keeper*.

Wintering Nuclei.—In reply to a call from G. M. Doolittle for some plan by which queens may be carried over winter, Dr. Miller tells, in *Gleanings*, how he has wintered in the same hive two colonies or nuclei. A bee-tight division-board separates the two parts, and the two nuclei clustered up against the division-board, forming a single cluster with the division-board in the middle. Editor Root says that before they sold off queens in the fall, they wintered nuclei in this way successfully.

Untimely Brood-Rearing in early spring or late winter, its causes and consequences, are dwelt upon in *Sweizerische Bztg.*, also in *Preussische Bztg.* The brood-nest is unduly extended, bees fly much and are lost in the chill season, and too often a cold spell comes on, obliging the bees to shrink to a small cluster, leaving a large amount of brood to perish. Some strains are specially given to this fault, and breeding from these should be avoided. Winter warmly, but not too warmly; avoid too much bright sunshine on the hives; be sure to have abundant stores in the hive in the fall, so there will be no need to excite the bees by too early feeding; allow plenty of ventilation and avoid all disturbance; these are the means advised to avoid the evil results of this unseasonable and exaggerated brood-rearing.

Shipping Bees in Cars.—Frank McNay prefers a stock-car as being cooler in warm weather than a box-car. He says in *Gleanings*: "My plan was to load the hives firmly, yet apart, so as to secure a circulation of air around each hive. This was done by placing a row of hives across the end of the car, a few inches apart, then securing them in place by laying two rows of lath crosswise on top of the hives, letting the ends of the lath press firmly against the sides of the car, and nailing lath to each hive with 1-inch wire-nails. Then we placed another row over the other, resting on the lath, with space between the hives over the center of the hives in the lower row, then we nailed on two rows of lath, the same as before. This plan worked nicely, as there was not a hive moved from its position en route, and as they had to be loaded two tiers deep, this break-joint plan not only served to facilitate ventilation, but also afforded an excellent opportunity to sprinkle water in the top of the lower as well as upper tier of hives, which was done several times, as they were three or four days on the road."



GEORGE W. YORK, EDITOR.

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Organized to advance the pursuit of Apiculture; to promote the interests of bee-keepers; to protect its members; to prevent the adulteration of honey; and to prosecute the dishonest honey-commission men.

Membership Fee—\$1.00 per Annum.

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GENERAL MANAGER AND TREASURER—Eugene Secor, Forest City, Iowa.

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NOTE.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound.

The Next National Convention of bee-keepers ought to be even larger and better than that of 1897, if that be possible. But whether or not that will be attained depends much upon where it will be held. Editor E. R. Root and Rev. E. T. Abbott are whooping it up for Omaha, some time during the great Trans-Mississippi Exposition to be held there from June 1 to Nov. 1, 1898.

The Executive Committee, who have to decide as to where the convention is held, want to be assured of as low railroad rates to Omaha as will obtain to Cincinnati where the Grand Army meets early next September. This assurance the Omaha Exposition people so far seem to be unable to make. So there we are.

In all probability the rate to Cincinnati will be one cent a mile each way, as it was to Buffalo. Personally, we should like very much to go to Omaha, and it seems to us that all the railroads on this continent could well afford to make a straight rate of one cent a mile to Omaha during the months of the Exposition.

The Executive Committee of the United States Bee-Keepers' Union feels that it ought to know something definite about rates before it decides to hold the meeting anywhere.

Honey Market of Belgium.—The United States supplies Belgium with more honey than any other, and the trade is well established. France is her chief competitor. Out of more than 2,000,000 pounds imported into Belgium in a recent year, the United States supplied 915,000 pounds. So reports the Orange Judd Farmer. We believe a large general foreign trade in United States honey could be developed if the right men could be found to undertake it and work it up.

Foul Brood and Drones.—We have received the following letter from Mr. A. F. Fluckiger, of Oregon, who says:

As I am a reader of the American Bee Journal, I would like to know your opinion about the article written by Mr. Poppleton, on foul brood, as per the enclosed clipping, as it differs much from Mr. McEvoy's statement. Also the facts about apiculture, from Mrs. Jessie Thornton; I find all a little strange, as I never before read in a bee-journal that the drones are useful for ripening the honey.

A. F. FLUCKIGER.

The articles to which Mr. Fluckiger refers are clippings from the Webfoot Planter, an agricultural paper which seems to be published in Portland, Oreg. Mr. E. R. Poppleton says:

"I do not agree with Dr. Chase (nor do our best bee-journals), as to his statement regarding foul brood. You can no more start foul brood in a hive of bees than you can start a herd of cattle without a male and female. The disease is caused by a small insect or spora, and must be taken into the hive, where it multiplies very rapidly. It takes from 6 to 12 months to kill a hive—according to the amount of spora taken into it. . . . If bees become weak from the middle of June to October, moths will frequently fill the hives so full of web that the bees cannot get in to contract the disease. . . . As for the bee-moth, I believe they save ten hives to where they kill one—if they ever do kill any, which I very much doubt. In the 8,000 or 10,000 hives I have transferred during my 20 years' work throughout the Willamette valley, I have never found one good hive that I thought the moths could have killed. . . . The reason moths will save bees is because they fill the foul brood hive so full of web the bees cannot get in to carry off the honey. Foul brood hives that die in the winter are the worst to deal with, as there are then no moths to keep the other bees out, and these are sure to smell it in the spring."

It would be somewhat interesting to know what Dr. Chase could have said that would neither agree with Mr. Poppleton nor our best bee-papers. For certainly the bee-papers would not entirely agree with Mr. Poppleton in some of his statements. There must be something peculiar about Mr. Poppleton's locality, for he says you can't start foul brood in a hive full of bees, while elsewhere you cannot find a better place. With him "the disease is caused by a small insect or spora," while elsewhere, instead of belonging to the animal kingdom it belongs to the vegetable kingdom, the whole trouble being laid to a minute plant called "bacillus alvei." In other localities the bee-moth will hardly be considered such a benefactor as to save ten hives to where they kill one!

Then, the idea of moths trying to kill "hives" made of wood! Of course they couldn't. But they have often destroyed colonies of bees.

Mrs. Jessie W. Thornton, who has been engaged in bee-keeping for 20 years, gives "a few facts relative to the honey or section rack." She says:

"A good colony should consist of from 9 to 12 frames of honey and brood, one good queen, and 20,000 workers. Granting that the operator has a good colony ready for the production of comb honey, he will now place his honey-rack on top of the frames, directly over the brood-chamber. If the weather is fine and there are plenty of flowers for the production of honey the section-rack will be full of unripe honey in from four to six days. Now comes the process of ripening—quite essential—for bees will not cap unripe honey. In the ripening process is where the drones come into use, and therefore they should never be killed off. With their large wings they fan the air, keeping it in motion, and thus causing the water to evaporate from the honey. It will take about four days for the honey to ripen if the weather is fair; if cloudy it will take longer. Ten days is long enough in any case, so in ten days from the time you put on the rack you can take it off and it will be nicely filled with white, ripe honey."

Mrs. Thornton lives quite a distance south of Mr. Poppleton, and if possible has a still more peculiar locality. With 20,000 workers the section-rack will be filled with honey in four to six days, and with fair weather ripened in four days more, so you are always safe to take it off in ten days! In other localities, with twice as many bees, the bee-keeper will

think he is doing pretty well if he can have all his sections ready to take off in twice ten days. Possibly, however, it is not so much the locality as the management. While others try to limit the number of drones, Mrs. Thornton kindly fosters them, and they repay this fostering kindness by fanning the air to ripen the honey. But has she not a different strain of drones? for probably no one else has ever known drones to fan the air while in the hive.

BIOGRAPHICAL NOTES.

REV. L. J. TEMPLIN.

L. J. Templin was born at Danville, Hendricks Co., Ind., Dec. 20, 1834. He grew to manhood in Delaware and Henry counties of that State. He got his education in the public schools and by close reading and study at home. At the age of 20 he began teaching in the Indiana common schools. In the spring of 1856 he was married to Miss Mary A. Lerner, of Howard Co., Ind. Two years later he entered the ministry of the Methodist Episcopal church, in the North Indiana Conference. After four years of labor in this field, during which he was much of the time in the midst of great revivals, hundreds being converted and added to the church under his labors, his health failed, and he has been a great sufferer from asthma.

After the failure of his health, Mr. Templin located at Kokomo, Ind., and engaged in the nursery business. Dr. J. M. Hicks, of Indianapolis, became a member of the firm, adding a bee-department. It was here that Mr. T. became interested in bee-keeping. His health proving too bad for the business, he sold out, and after traveling two years as emigrant agent for the Santa Fe Railroad Co., he moved to Hutchinson, Kans. Here he engaged in teaching the common schools, and also had charge of the scientific department of the Teachers' Normal Institute of his county for several years. His health continuing to decline, and his wife's health having utterly broken down before leaving Indiana, their next move was to Canon City, Colo. Here he engaged in fruit-raising and bee-keeping, in both of which branches he was quite successful.

On account of several attacks of la grippe, the health of both Mr. and Mrs. Templin became so impaired again that another change seemed imperative. This time Southern California was chosen. On arriving there Mr. T. purchased a ranch at the foot of the San Miguel mountains, fronting on the noted Sweetwater reservoir, near a station and post-office, about ten miles east of San Diego. Here he is engaged in the bee and poultry business, to which he is adding the raising of Belgian hares. For many years Mr. Templin was a very ardent Republican, but becoming disgusted with the subservience of that party to the liquor power, in 1884 he became a working, voting Prohibitionist. In this work he has been very active, having served five years as chairman of the county central committee of his party while in Colorado. He also served one term as chairman of the Colorado Prohibition State Central Committee; and canvast that State quite extensively in the interest of prohibition and The Challenge, the organ of the party in that State.

Mr. Templin has been a rather prolific writer for the public press; dealing largely with rural and scientific topics. Political and religious subjects have also engaged his pen to a considerable extent. Some of his writings have commanded considerable attention, being reproduced in leading publications in both America and Europe.

A FRIEND.



MR. THOS. GLANCY, of Hardin Co., Iowa, gave this office a call March 10, when in Chicago with stock. He sells his honey crop in the home market, having about 30 colonies.

MR. GEO. C. LEWIS, son of G. B. Lewis, of the G. B. Lewis Co., called at this office March 5. He reported a busy time at their bee-supply factory. They are preparing for a large trade this season.

"NO BUSINESS DONE ON SUNDAY" is a prominent line in the bee-supply catalog of M. H. Hunt, of Michigan. We were pleased to note it. There are too many who reserve their bee-work or bee-business until Sunday. If a man cannot keep bees without doing the work on Sunday, he would better let bee-keeping alone. We believe in resting on Sunday, in getting our mind off of week-day business cares and work. Six days labor out of seven is enough. All the world would be better off did it rest a seventh of the time. And as the great majority have agreed on Sunday as that "seventh," all should unite in seeing that everybody may rest on that day, and that no secular work be done.

MR. ALLEN LATHAM, of Norfolk Co., Mass., has this to say of the Bee Journal of last year:

"I consider that the 1897 American Bee Journal is the best of all years for at least 10 years."

Well, we have some complete sets of last years numbers still on hand, which we will mail to any one ordering, at 60 cents each. There are 832 pages in the volume—pretty cheap at 60 cents.

Mr. Latham has kindly sent us a sample of aster-golden-rod extracted honey, which is of a rich, golden color, and most excellent flavor. For a fall honey we do not know of better.

MR. T. S. FORD, of Scranton, Miss., the February Bee-Keepers' Review reports, died last November. Mr. Ford for several years wrote excellently for the Bee Journal as well as some other bee-papers, especially on the subject of bee-paralysis, with which he had considerable experience. He was one of the two or three that preferred to do without the American Bee Journal rather than see its reformed spelling. We regretted that so evidently intelligent a man should take such a stand, but he did, and we doubt not, had he lived, in a few years he would have been surprised that he ever could have looked at the subject as he did.

MR. JOHN DETWILER, a Florida bee-keeper, is also interested in oyster and clam culture. In a local newspaper he has two articles, one on "Experimental Oyster Culture," and the other on "The Propagation of the Soft Clam." About all we know about oysters is that we like to eat them; and as to clams—well, like a clam, we're softly mum.

PRES. E. S. LOVESY, of the Utah Bee-Keepers' Association, sent us this testimonial, Feb. 17:

"I am well pleased with the grand old American Bee Journal. It seems that there is some new feature, or something new and interesting, every week, for the benefit of bee-keepers."

CATALOGS FOR 1898 are on our desk from the following who are among those patronizing the advertising columns of the American Bee Journal:

Marilla Incubator Co., Marilla, N. Y.—Incubators.

M. H. Hunt, Bell Branch, Mich.—Bee-Keepers' Supplies.

Northrup, King & Co., Minneapolis, Minn.—Seeds of all kinds.

W. T. Falconer Mfg. Co., Jamestown, N. Y.—Bee-Keepers' Supplies.

Reliable Incubator and Brooder Co., Quincy, Ill.—Incubators and Brooders.

Gus Dittmer, Augusta, Wis.—Bee-Keepers' Supplies.

Electric Wheel Co., Quincy, Ill.—Wide Tire Wagon-Wheels.

MR. S. T. PETTIT, of Canada, writing us lately said:

"I enjoyed the 'kicks and growls' sent in by Mr. Jenkins, on page 120, tho I don't agree with him in kicking at your improved way of spelling. My wife and I rather like the short cuts—it never 'shox' us a bit. But, soberly, I am getting used to it, and like it."

In a few years we expect to find plenty more people commending us for our stand on spelling reform, who now look upon it with disfavor. Many unpopular things of the past are now "right in style." Before the first locomotive was invented, some people said it never could be made to run; then when they saw it running at about 10 miles an hour, they said it couldn't be made to stop! Of course, if some people want to go on writing six letters where four will do better, that's their privilege. See a few of them: Capt for capped, ript for ripped, nipt for nipped; then five in place of seven: dropt for dropped, shipt for shipped, stoit for stopped, etc.

QUESTIONS AND ANSWERS

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Building a Bee-House.

If a bee-house is built with drop-siding and building-paper on the outside of the studding, and shiplap and building-paper on the inside of the studding, with building-paper between the roof-board and shingles, ceiling boarded with shiplap and building-paper, with ventilator on top, will it winter bees all right? WISCONSIN.

ANSWER.—So far as the house is concerned, it's probably all right. But you can't depend upon a house alone. Some kind of proper packing must be used, at least over the hives. The house will not keep the bees as warm as in a cellar.

Putting Bees Out of the Cellar.

My bees in the cellar are doing well. Would it be advisable to take them out when sap flows from soft maple? I have quite a grove of maples, and could tap and let the bees work on it if it were prudent. I know bees work on the maples, but I am at a loss as to when would be best to turn them out. I am experimenting with top ventilation of hives instead of bottom. IOWA.

ANSWER.—Better not take them out till your soft maples bloom, according to some, and according to others take them out about the first of April whether maples bloom or not.

Tell us how you come out about your ventilation. You'll likely find that in the cellar your bees will be all right if other things are right, whether the ventilation be at the top, bottom or middle.

Wintering in a Bee-Shed—Black Drones.

1. I have a bee-shed 16 feet long, three feet at the back and four feet at the front. I have a trap door to let down on the south side, and it is fastened up by strap hinges. I have my bees in dovetailed hives, and they are all packed in the shed with fine straw two inches thick. A part of my bees have plenty to go on. The hives will weigh all the way from 50 to 60 pounds. Where is it best to winter bees, in a shed or out in the open air?

2. What would you do with the drones from black bees if you were to give them Italian queens—trap them, or not? IOWA.

ANSWERS.—1. It isn't easy to tell without trying, but very likely they'll winter all right in the shed. Look out that the entrances don't get clogged.

2. What is best to do with the black drones depends on circumstances. If there are plenty of black drones within half a mile or a mile of you, it isn't worth while to do very much about your own. If you have only your own to contend with, then it will be well to trap them. But in this case prevention is better than cure, and it will be well to get as nearly as possible all drone-comb out of the black colonies.

Candied Honey for Honey-Vinegar.

I have some brood-frames full of candied honey. Will it be fit to make into honey-vinegar? COLO.

ANSWER.—It will be excellent for that purpose if the combs are clean.

Hives Under Apple-Trees—Unfinisht Sections.

1. I have no bee-shed, so I set my hives under the shade of apple-trees, where the apples, in falling, hit the hives. Will this disturb the bees enough to make it advisable moving them out in sun? Apple-trees are all the shade I have.

2. What would be the best way to dispose of partly-filled sections? Would it be advisable to put them where the bees could clean them up—I mean out-doors? If so, when would be the best time? The bees have plenty of stores and could do without any feeding, but I would much rather the sections be cleaned up if it would be advisable. KENTUCKY.

ANSWERS.—1. I have had bees under apple-trees for years, and while I'd a little rather the apples wouldn't thump the hives, yet I don't believe it does much harm, and I expect to continue using apple-trees for shade.

2. It is quite possible that the best thing you can do with those sections, if there isn't enough honey in them for table use, is to melt them up, taking pains to melt them very slowly, no matter if it takes two or three days for it; then when melted and cooled, take off the cake of wax. For the honey is probably more or less granulated, and if it is, the bees are not likely to clean it out so clean

that not a particle of the grains of honey will be left, and any grains of honey will be a damage to the new honey stored in them. Of course it will be all right to feed them to the bees before melting, if you like, in which case it will be well to have something placed under to catch the chips of wax and grains of honey. If you had allowed the bees to clean them out last summer or fall, then the sections would be good to use this summer again.

Italianizing—Carrying Out Bits of Comb.

1. I want to Italianize my apiary next season. Not desiring any increase, how would it do to remove the black queens when they begin making preparations for swarming, and give the queen-less colonies queen-cells in a day or two afterward?

2. Could as much comb honey be produced in this method as by waiting till the honey harvest is over and then requeen?

3. My bees are wintering on the summer stands. Some of them seem to be carrying bits of comb or wax out upon the alighting-boards. Are those that are carrying out the comb doing as well as those that are not? There is no moth. BEGINNER.

ANSWERS.—1. It will do all right if you're sure to give them good cells and not have them swarm.

2. Keeping the force together in this way ought to give good results in honey, perhaps better than if you let them swarm and requeened after harvest.

3. That's nothing against them if it's the bits of capping and refuse from the bottom of the hive. If it's pieces of comb broken from the cell-walls, there is danger that mice may be troubling. It's a good plan to have the entrances closed with wire-cloth having three meshes to the inch; this will allow free passage for the bees, but bar the mice.

Foul-Broody Combs.

I sent to Arkansas for a queen and introduced her all right. This was the beginning of June. I put a second story on with drawn combs, that I got from a neighbor. The bees cleaned them up and fixt them ready to fill with honey. That was all they ever did. I took off the second story to examine them, and I found four frames with a great number of cells not hatcht out, and all brood dead. I stuck a splinter into it to see if it was ropy; it did not draw out much; the cell-cappings were shrunk a little. I think it was foul brood. I got a clean hive with starters and shook the bees off in front, and after the bees had quit flying they seemed to work a couple of days, then the next time I lookt the bees had fled. I lookt over the orchard expecting to see them, but that was the last of them. I was not a bit sorry.

Would it be safe to use those combs that the bees cleaned up? They did not put a particle of honey into them, and they are nice and clean. I would not like to melt them up. How would carbolic acid and water do? ONTARIO.

ANSWER.—If I had those combs I wouldn't be a day older till I'd cut them out, and use the frames for fuel to melt the combs. Too much risk to fool with any kind of drugs in a case of that kind.

Using Combs on Which Bees Died.

1. My first winter with bees, I find one colony as "dead as a door-nail," as Dickens puts it. It was well covered with pine needles, except the front of the hive; had two frames of honey left; bees were clustered on top and near the top of three empty frames, and in each cell under the cluster is a bee wedged clear into the cell. I tried to cut them out, but couldn't cut across the top as the top row was full, and the pressure would make the foul contents of bees squirt all around. Are those combs of any use?

2. Can the bees be gotten out?

3. The colony was not a very strong one. What caused them to die? MASS.

ANSWERS.—1. If the combs were good before the bees died, they are still of value.

2. Yes. Some say mice will clean them out. If you keep the combs in a good, dry place, the bees may be pickt out with a pin after they are well dried, and some of them may even shake out. Or the bees themselves will make a pretty good job cleaning them out after they are dry.

3. Perhaps diarrhea. Possibly they starved. Even with plenty of honey left in the hive, they could make no use of it during a cold spell if it was out of their reach.

Nucleus Method of Increase.

I have one colony of bees, and want to increase them as many times as can be done with safety, next season. I do not want honey, but increase. NEBRASKA.

ANSWER.—In the matter of trying to make increase there are things to be taken into account that are all the time coming up, general principles that should be fully understood, or there's a chance to make a mess of it in a hundred different ways. As you mention the matter of "safety"—a thing often too little considered—perhaps the best way will be to work on the nucleus plan. The supposition is that your colony is in a frame hive. If the season is not a good one, you must count on feeding whenever it is

needed. If your colony will be accommodating enough to swarm in good season, all right. If not, you must take the matter into your own hands. Take two frames of brood with the adhering bees and the queen, and put them in another hive on a new stand. That leaves the old colony queenless, but very strong, for you must not think of doing anything until the colony has become very strong. And it's so important to have good queens that you must not think of a nucleus having anything to do with a queen-cell till it's sealed. In about a week you may take the old hive from its stand and put in its place the hive that has contained and still contains the queen, filling up this hive with foundation if you haven't done so before. You may now divide the contents of the old hive into nuclei. Put one of them on the stand from which you have just taken the queen, and the others in new places. Each nucleus should contain two or three combs with adhering bees. One comb well filled with brood may do for one of the combs, or if the combs are not so well filled, it may need two or even three frames with brood. Of course each nucleus must have a sealed cell. You now have the old queen on the old stand with a fair supply of bees, for many of the field-bees will go back to the old stand, and you will have, perhaps, three nuclei. As soon as the old colony gets as strong as it was before, you may repeat the operation, and in course of time the nuclei first made may become strong enough so they can be used to strengthen. Remember that "safety" is your motto, and you're not to be fool enough to get a whole lot of weak nuclei started, and have none of them strong enough to amount to anything. Work your nuclei up into strong colonies as fast as you can, and don't draw from any of them till they have at least five or six frames of brood. You can go on making two or three nuclei at a time if you have a long, good season, and you can do something toward making a good season by feeding. If you have an 8-frame hive to begin with, it may be worth your while, before doing anything in the way of dividing, to give it a second story and try to have 10, 12 or more frames of brood.

A Case of Bee-Diarrhea.

A beginner in bee-keeping who is a neighbor of mine is in trouble. His bees have the dysentery, and he knowing me to take the Bee Journal, has requested me to write for advice as to what is best to do.

IOWA.

ANSWER.—The disease called formerly dysentery, and now generally called diarrhea, is perhaps hardly a disease at all, in the strict sense of the word. It is a painful condition caused by the overloading of the intestines of the bee, and that being the case, the plain cure is to give the bees a chance to empty themselves. That's the only cure. As soon as a warm day comes, the bees will fly and empty themselves, for they are neat creatures and unwilling to soil their hives as long as it can possibly be avoided. Some have thought to hurry up matters when the weather was too slow, by taking the bees in a warm room and giving them a chance to fly. I'm not sure that it was ever a great success. But I have some little faith in warming them up thoroughly. When bees are in the cellar, it may be heated to 60 or 80 degrees, and then allowed to cool down again. If they are out-doors they can be brought in at night into a warm room, and the room allowed to cool down before daylight next morning, when they must be set back. But be sure the room is perfectly dark when they are warmed up. Your great hope will be in a warm day coming so they can fly.

The Solar Wax-Extractor.

Is the solar wax-extractor patented? If not, what is the size, and how is it made?

ILLINOIS.

ANSWER.—I know of no patent on the solar wax extractor. There are various sizes, and you can make them almost any way, so you keep the main principle in mind. That is, to have an enclosure covered with glass into which the sun can shine, with opportunity for the melted wax to separate from the slum gum or debris. A simple way is to have a box with a cover hinged on, a large pane of glass in the top of the cover, in the box a pan with a perforated bottom, in which to put the combs or scraps to be melted, and underneath this a pan to hold the melted wax.

Transferring and Dividing Colonies—Two-Story vs. One-Story Hives.

1. I have five box-hives with bees which I want to transfer in the spring to Champion chaff hives. Could I make an artificial swarm out of each colony at the same time when I transfer the bees? If so, please let me know how, and when would be the best time?

2. Is the Champion chaff hive a good hive?

3. Is a two-story hive as good or better than a one-story hive?

NEW JERSEY.

ANSWERS.—1. You could divide a colony into two or more at the time of transferring, but it would hardly be advisable. You may, however, reach the same end in a better manner. Wait till the colony swarms, and hive the swarm in the new hive. Set the swarm in place of the old hive, putting the old hive close beside it. A week later, remove the old hive to a new place. Two weeks later still, or three weeks from the time of swarming, all the worker-brood will be hatched out in the old hive, when it can be transferred

to a new hive. The first one will be strong, and will give a good account in surplus honey if the season is favorable, the other one ought to satisfy you if it gets in proper condition for winter. Of course in a remarkable season it might yield surplus, and in a poor season it might have to be fed.

2. I have no practical acquaintance with the Champion hive, but I suppose it is a good chaff hive.

3. It all depends upon circumstances whether one story is as good as two. If only eight frames are in a hive, there are times when it will be much better to have two stories. With 10 or 12 frames in a hive, there is no great need of a second story, unless it be for surplus honey. Of course, if surplus receptacles are counted as second stories, then no one would think of doing with only one story, unless the long-idea hives are used, having perhaps 20 frames in one story.

Transferring—Cyprian Bees.

I have five colonies of black bees in box hives, and I want to transfer them as soon as possible into 8-frame dovetailed hives.

1. When is the best time to do it?

2. What time after transferring can queens be introduced?

3. Would you recommend Cyprian queens? SUBSCRIBER.

ANSWERS.—1. The time usually considered best is in fruit-bloom, but the belief is constantly gaining ground that it is better to wait till the colony swarms.

2. Any time.

3. I should not prefer them, but some like them.

Gathering Pollen Early—Perforated Zinc.

I purchased two colonies of hybrids in January, weighing about 50 pounds each, and moved them home, a distance of about 400 yards, the weather being brisk for about a week, then it moderated. They came out, and in a day or two they began bringing in pollen in large quantities. What were they gathering it from, as trees had no chance to bud or sprout? Or did they rob other bees? At the same time I found young brood which they had carried out, one of them matured only a crippled wing, showing they were rearing brood some time before.

2. I want to transfer them into movable-frame hives in the spring, and am making excluding-boards of perforated zinc-strips and wood-slats, alternately, the strips perforated with one row of square-cornered holes 17-100 x 9-10. Are they as good as two rows and round ends? MISSOURI.

ANSWERS.—1. The pollen carried in could not be from robbing other bees. When they rob it's honey they're after, not pollen, and the pollen that's in the hive they couldn't pack on their legs. It isn't easy to say what the pollen was gathered from without knowing the resources of your neighborhood. Pollen may be had from some plants and trees when you would think not a bud has started. Willows and hazels blossom and yield much pollen when the leaf-buds show no sign of starting. In some places skunk-cabbage is the first thing to yield pollen.

2. I doubt if you can detect any difference between one row and two rows, or between holes with round and square ends.

Management of Transferring.

1. I have 20 strong colonies of bees in large box-hives where I want to start an out-apiary. I have 8-frame dovetailed hives on hand to transfer them in next summer. I don't want them to swarm, as I could not be there to care for them. When would you transfer?

2. Can I "drive" them just before the swarming-season, and get nearly or quite as good results as by natural swarming?

3. Would you wait three weeks before making the next "drive," or drive out a few every week for three weeks?

4. Hived on starters, how many days would you wait before putting on the boxes, not using any excluders?

5. Do you think they would swarm during a honey-flow of about six weeks?

6. Can you suggest a better plan to get a crop of honey and keep down swarming? CONN.

ANSWERS.—1. Transfer in fruit-bloom.

2. In most cases probably not quite as good, but nearly so.

3. You were talking in the first place about transferring, but this is a different thing. It will be simpler to wait three weeks instead of making several "drives," and perhaps better.

4. Perhaps two.

5. Hardly, after being thrown on starters.

6. That's a hard question, to know how best to keep down swarming and get the most honey if you're running for comb honey. Study thoroughly your text-books, and have the general principles as familiar as A B C, and then you'll be better able to know just what will suit your case. If you are running for extracted honey it's much easier. In that case a plan highly commended by some, is to put one comb of brood with queen and adhering bees in the lower story, filling up with frames of foundation, and putting the remaining brood and bees in a second story with an excluder between.

See "Bee-Keeper's Guide" offer on page 125.

GENERAL ITEMS

How to Sell Honey.

I have sold over 5,000 pounds of honey at retail, and have calls every day for more. My method of selling is to put 10 pounds in a tall gallon crock, and sell it for 90 cents, jar and all. Let every bee-keeper do the same, and less honey would go begging for a market in the large cities.

Lenawee Co., Mich.

C. A. HUFF

[Mr. Huff evidently practices what he preaches. Others could go and do likewise in the way of selling honey. When your own crop runs out, send for some of the alfalfa and basswood honey we offer in these columns. A small sample of either by mail, for 8 cents, to cover postage and packing.—EDITOR.]

High or Low Elevation for an Apiary.

In the answer to Maine on the above question, on page 54, Dr. Miller says he will yield the floor to any one who can throw light on the subject. I am unable to fully answer the question, but my experience may throw on a little light.

Last spring I placed two colonies of bees on the roof of an eight-story factory in Brooklyn, near the East river, and they gathered for me 150 pounds of nice comb honey, and I do not think they would have done better if they had been on the ground. I am wintering them on the roof, well protected. They are in good condition, and all right now—Feb. 7.

BROOKLYN.

A Report for 1897.

I commenced in the spring of 1897 with 15 colonies; I had six swarms, increasing to 21, and got about 46 pounds of surplus honey from most of them, tho I didn't get more than 25 or 30 pounds from some. They gathered honey very fast in the forepart of the season, tho it was too dry in the fall at the time that we get our best honey. We have a fine fall honey weed here, tho I don't know the name of it. It yields the finest honey that I ever saw. It grows very tall and has a fine bloom. It is a little like the boneset.

Hurrah for the American Bee Journal! I don't see how I can do without it. We have been taking six regular papers for a long time, and when they get here the Bee Journal is the first and the last one that I read.

W. W. BUCY.

Calloway Co., Ky.

Results of the Last Season.

I like the Bee Journal better every year, and always look forward to the night it arrives with pleasure. I have learned all I know from it, and would like to see more of my bee-keeping friends subscribe for it. Last season was the best I have had; from two colonies of Italians I took 252 pounds of extracted and 28 of the whitest and best-filled sections I have ever seen. After taking off the sections I put on a second story with ten frames half filled with foundation; eight days after I extracted nearly 60 pounds, making a total of 96. Another colony built their combs, and I extracted 156 pounds from them. I averaged 56 pounds of comb honey per colony. My bees are all Italians, in 10-frame Langstroth hives. I am making a few 12-frame hives. Mine are all double-walled, packed in large hives.

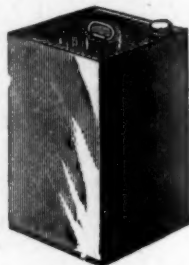
Ontario, Canada.

JAMES LAIDLAW.

Bee-Keeping in South America.

I read the Bee Journal with the greatest interest, but sometimes it is difficult for me to understand how old, settled questions, as about the necessity of comb foundation,

Only 6 cts. per Pound in 4 Can Lots or Over.



Finest Alfalfa Honey!

IT SELLS ON TASTING.

The Honey that Suits All Who Buy It.

We can furnish **White Alfalfa** Extracted Honey, in 60-pound tin cans, on board cars in Chicago, at these prices: 1 can, in a case, 7 cents per pound; 2 cans in one case, 6½ cents; 4 cans (2 cases) or more, 6 cents. The Cash must accompany each order.

A sample of the honey will be mailed to an intending purchaser, for 8 cents, to cover postage, packing, etc. We guarantee purity.

GEORGE W. YORK & CO., 118 Michigan Street, CHICAGO, ILL.

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Smoke Engine (largest smoker made) 4-in. stove.	Dox. \$13.00; each, by mail, \$15.50
Doctor..... 3½ in. stove.	Dox. 9.00; " 1.10
Conqueror..... 3 in. stove.	Dox. 6.50; " 1.00
Large..... 2½ in. stove.	Dox. 5.50; " .90
Plain..... 2 in. stove.	Dox. 4.75; " .70
Little Wonder (weight 10 ounces)..... 2 in. stove.	Dox. 4.50; " .60
Honey-Knife.....	Dox. 6.00; " .80

Bingham Smokers have all the new improvements. Before buying a Smoker or Knife, look up its record and pedigree.

FIFTEEN YEARS FOR A DOLLAR; ONE-HALF CENT FOR A MONTH.

Dear Sir:—Have used the Conqueror 15 years. I was always pleased with its workings, but thinking I would need a new one this summer, I write for a circular. I do not think the 4-inch Smoke Engine too large.

January 27, 1897.

Truly, W. H. HAGERTY, Cuba, Kansas.

Mr. Bingham, Dear Sir:—Please send per mail a 4-inch Smoke Engine. I have one of your Smokers; it is too small in time of trouble.

February 21, 1898.

A. F. SEWARD, Riverside, Calif.

9A9t

T. F. BINGHAM, Farwell, Michigan.

Page & Lyon Mfg. Co. New London, Wisconsin,

Operates two sawmills that cut, annually, eight million feet of lumber, thus securing the best lumber at the lowest price for the manufacture of

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They have also one **One of the Largest Factories** and the latest and most-improved machinery for the manufacture of

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that there is in the State. The material is cut from patterns, by machinery, and is absolutely accurate. For Sections, the **clearest and whitest Basswood** is used, and they are polished on both sides. Nearness to Pine and Basswood forests, and possession of mills and factory equip with best machinery, all combine to enable this firm to furnish the

Best Goods at the Lowest Prices.

Send for Circular and see the Prices on a Full Line of Supplies.

Please mention the American Bee Journal.

7Atf

California

If you care to know of its Fruits, Flowers Climate or Resources, send for a Sample Copy of California's Favorite Paper—

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated \$2.00 per annum. Sample Copy Free.

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Working Wax into Foundation A Specialty.

Hives, Sections, and a full line of Supplies. The best of everything. Write for Catalog, with prices, and samples of Foundation and Sections.

BEESWAX always wanted for cash or trade.

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AUGUSTA, WIS.



ONE MAN WITH THE UNION COMBINATION SAW

Can do the work of four men using hand tools, in Rippling, Cutting-off, Mitring, Rabbeting, Grooving, Gaining, Dadoing, Edging-up, Jointing Stuff, etc. Full Line of Foot and Hand Power Machinery. Sold on Trial. Catalogue Free.

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READY TO MAIL

My 40-page Catalog of my Specialties, and Root's Goods at their prices. I carry a full line of BEE-KEEPERS' SUPPLIES, and can ship promptly. Catalog Free.

GEO. E. HILTON, Fremont, Mich.
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FIRST PRIZE WINNERS
Our 1898 Mammoth Poultry Guide of 100 pages mailed FREE. Something entirely new, tells all about poultry, how to be a winner, how to MAKE BIG MONEY. Contains beautiful lithograph plate of fowls in their natural colors. Send 15 cts. for **JOHN BAUSCHER, JR.** postage. Box 91 FREEPORT, ILL.

44A26t Please mention the Bee Journal.

Home for Sale—A Home in California

On account of almost total loss of eyesight I am compelled to offer my fruit ranch and apiary for sale or exchange. For further particulars address **E. B. BECKER,** 6A4t AUBURN, Placer Co., CALIF. Please mention Bee Journal when writing.

WANTED A young single man capable of taking care of an apiary consisting of 250 or 300 colonies of bees. Must give good references and none but a thoroughly competent man need apply. Address, **The Gila Farm Co.,** Cliff, Grant Co., N. Mex. 9A4t Mention the American Bee Journal.



Bee-Hives, Sections, Shipping-Cases—everything used by bee-keepers. Orders filled promptly. Send for catalog. **MINNESOTA BEE-KEEPERS' SUPPLY MFG. CO.,** Nicollet Island, Minneapolis, Minn.

Please mention Bee Journal when writing.

Catalog Free **A. I. Root & Co's Goods** for Missouri and other points, to be had at factory prices from **John Nebel & Son, High Hill, Missouri.** 9A4t Please mention Bee Journal when writing.

We PAY CASH each WEEK the year round, if you sell Stark Trees. Outfit free. **STARK NURSERY, LOUISIANA, Mo., Stark, Mo., Rockport, Ill., Danville, N. Y.** Please mention Bee Journal when writing.

can be ventilated again. I cannot understand how bee-keepers can do without foundation. I have about 300 colonies, and make a business of them, and would really not know how to manage them alone with my daughter without comb foundation.

Bees are very cross here in summer-time. We have black bees. I believe the Spaniards brought them into this country.

People who dream about the stingless bee should know that those bees are not really bees (*Apis mellifica*), but *meliponas*. There are many classes. One I know does not sting, but crawls in one's hair and beard, gives very little honey (in small pots like a thimble), and the wax is soft and different from beeswax. I have heard about the other classes, too. Some of them fight and bite terribly, much worse than honey-bees. They live altogether in hot climates, and it would never pay to domesticate them, as they produce very little honey. J. NOELTING.

Buenos Aires, South America.

Early Spring and Fruit-Bloom.

We are having a very early spring, and if this weather lasts 10 days longer, bees will swarm before. Plum and peach trees are in full bloom here now, and the weather is like the month of May. I have 13 colonies, and they are in good condition, and storing honey every day. I examined them today. C. R. WEST.

Ellis Co., Tex., March 8.

A Bee-Keeper in Trouble.

Last October we had a big rain, but since then we have had hardly any. It has been dry until now (Jan. 12). We have just had a good rain, about 1½ inches, which gives us in Southern California hope for a good honey-year if it keeps on raining occasionally.

I have now 200 good colonies of bees. Last winter I lost a good many by neighbors who went on my land in my apiary and tipped over my hives. Now they have sued me as a criminal for keeping bees on my own land from where the bees fly off to others' land. I am right in the foothills, and the mountains back of them; there are other bees and apiaries around me, but they don't say anything about them. I have my case appealed to the superior court. I'd like to know how I can be a criminal when legally holding property—bees and land—and make an honest living from my bees and pay taxes on them. But the neighbors wanted to destroy my bees and my living. I shall fight for my rights.

Last spring I had about 60 colonies left; 36 were very strong in March, so I took bees from them and made the weak ones stronger. I got 13,000 pounds of extracted honey, all light amber, and increased my bees to 200 colonies. Most of them are now in good condition, but the price of honey is discouraging—3½ cents per pound.

FRANK S. BUCHHEIM.

Orange Co., Calif.

Sowing and Growing Alfalfa.

I have noticed of late that there have been a number of enquiries in regard to this plant, as its virtues as a honey and fodder crop are unsurpassed in any locality where it will grow as a honey-plant. It needs a moderately-dry climate, and in a dry, irrigated district where there is an abundance of water that can be poured over the surface of the soil. This supplies the roots with sufficient moisture, and produces a vigorous growth, then if there is no rain to wash the nectar out of the blossoms—under those conditions I believe it is at the top of the list as a honey-plant.

In reply to enquiries as to when and how to plant: Where there is no danger of frost, sow in the fall; where that danger exists, preparing the ground in the fall is best. The next best is as early as possible in the spring. The soil should be as fine as it can be reasonably made, and I believe the earlier it can be sown, within reason, the better. It can be sown alone or with

Sweet Clover

And Several Other Clover Seeds.

We have made arrangements so that we can furnish seed of several of the Clovers by freight or express, at the following prices, cash with order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	.60	\$1.00	\$2.25	\$1.00
Alsike Clover.....	.70	1.25	3.00	5.75
White Clover.....	.80	1.40	3.00	5.00
Alfalfa Clover.....	.80	1.00	2.25	4.00
Crimson Clover.....	.55	.90	2.00	3.50

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

Your orders are solicited.

GEORGE W. YORK & Co.

CHICAGO, ILL.

Southern Home of the Honey-Bee

Is now ready for your orders for QUEENS of either 3 or 5 Banded Italians and Steel Gray Carniolans. More than 300 Tested Queens to begin with. Untested, either race, 75 cts. each; June and until October 50 cents each. Tested \$1.00 each. Good Breeders, \$2 each. Straight 5-Banded or "Faultless" Queens, \$5.00 each. Satisfaction guaranteed.

GEO. W. HUFSTEDLER,

Successor to Hufstедler Bros.,

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Muth's HONEY-EXTRACTOR Square Glass Jars.

Root's Goods at Root's Prices.

BEE-KEEPERS' SUPPLIES in general, etc etc. Send for our new catalog. **Practical Hints** will be mailed for 10c. in stamps. Apply to—

Chas. F. Muth & Son, Cincinnati, Ohio.
Please mention Bee Journal when writing.

OUR PRICES are worth looking at. We are making the new

Champion Chaff-Hive with dovetailed body and supers, and a full line of other Supplies, and we are selling them CHEAP. A postal sent for a price-list may save you \$\$\$\$

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IF YOU WANT THE BEE-BOOK

That covers the whole Apicultural Field more completely than any other published, send \$1.25 to Prof. A. J. Cook, Claremont, Calif., for his

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Has No Sag in Brood-Frames

Thin Flat-Bottom Foundation

Has No Fishbone in the Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made

J. A. VAN DEUSEN,

Sole Manufacturer, Sprout Brook Montgomery Co., N. Y.

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BEE-KEEPERS! Let me send you my 64-page Catalog for 1898. **J. M. Jenkins, Wetumpka, Ala.**

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FINE FOUNDATION AND TONS OF IT.
Working Wax into Foundation a Specialty.

**Listen! Take my Advice and Buy
Your Bee-Supplies
of August Weiss!**

I DEFY competition in Foundation

Millions of Sections—Polisht on both Sides!!

SATISFACTION GUARANTEED on a full line of Supplies. Send for a Catalogue and be your own judge. Wax wanted at 26 cents cash, or 28 cents in trade, delivered to me.

AUGUST WEISS, Hortonville, Wisconsin.

To Seed Buyers

There are 3 classes of Seed Catalogs.

One class caters to the patronage of those who are misled by overdrawn pictures and statements that are untrue. Another class takes advantage of the fears of those, who, through a natural desire to secure the best seeds, will pay fancy prices for what often proves to be very ordinary stock. **THERE IS YET ANOTHER** class which seeks the trade of those, who want the best seeds possible to obtain and are willing to pay a reasonable price for them. **TO THIS CLASS OUR CATALOGUE BELONGS.** It is mailed FREE to those who write for it.

Shaw's System of Pasturing Sheep...

This pamphlet is given away to our customers.

**NORTHROP, KING & CO., Seedsmen,
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Our STERLING Brand of Grass and Clover Seeds represent the best quality obtainable.



WHERE OTHERS FAIL

the **SUCCESSFUL INCUBATORS** succeed, why? because they are properly constructed and the correct methods for operating them are plainly set forth in our 72 page Direction Book. Our machines will please you. Prices reasonable. All sold under a positive guarantee which we ask you to compare with others. Send 6c stamps for 128 page catalog and poultry book combined. **It will pay you.** Address **DES MOINES INCUBATOR CO., Box 78, Des Moines, Iowa.**

THE HATCHING HEN

HAS LOST HER OCCUPATION and in the production and brooding of chicks she has been supplanted by the better and every way

RELIABLE INCUBATORS AND BROODERS
They Hatch and Brood when you are ready. They don't get lousy. They grow the strongest chicks and the most of them. It takes a 224 page book to tell about these machines and our Mammoth Reliable Poultry Farms. Sent by mail on receipt of 10 cents. Send for it now. **Reliable Incubator and Brooder Co., Quincy, Illinois.**

37D171 Please mention The American Bee Journal.



Ho, for Omaha!

As we have many customers in the Northwest, and believing they will appreciate the low freight rates obtained by purchasing goods from a railroad center nearer to them than we are, getting a direct through-freight rate, thus cutting the freight in half, we have established a branch house at 1730 South 13th St., Omaha, Neb., where we will keep a complete line of all Apian Supplies, the same as we do at Higginsville, Mo. With the quality of our goods, we believe most bee-keepers in the West are already acquainted, but to those who are not, we will say that our goods are par excellent. Polished, snowy-white Sections, beautiful straw-colored transparent Foundation, Improved Smokers and Honey Extractors, and all other first-class goods, are what we sell. Kind and courteous treatment and honorable dealing our motto. On these bases, we solicit an order, feeling sure that if we sell you one bill of goods you will be our customer in the future.

PROGRESSIVE BEE-KEEPER, 50c per year. "Amateur Bee-Keeper," 25c. Both for 65c., postpaid. Sample copy of the **PROGRESSIVE** free, and a beautiful Catalog for the asking.

Address, **Leahy Manufacturing Company, 1730 South 13th St., Omaha, Neb.**



POULTRY PAPER, illus'd, 20 pages, 25c. per year. 4 months trial 10 cts. Sample Free. 64-page practical poultry book free to yearly subscribers. Book alone 10 cts. Catalogue of poultry books free. **Poultry Advocate**, Syracuse, N.Y.

10E6t Please mention the Bee Journal.

QUEENS Untested, after April 1, \$1; Tested \$1.50; Select Tested, \$2. Imported queens, direct from Italy, \$3 each. The best of stock, either Golden or Leather Colored. Write for price-list. **HUFFINE & DAVIS, 11A4t Ooltewah, Tenn.**

Please mention Bee Journal when writing.

wheat or oats. If sown early so as to catch the spring rains, I would sow about 18 to 20 pounds to the acre; if sown late or with other crops, I would put on 23 pounds; for if it is sown with grain, and it should happen to be a very thick stand, it may smother some of the alfalfa. It needs more moisture the first season than afterwards. A rain after the grain is taken off will give a vigorous start. With us, if we sow it with grain, as soon as the grain is off, we turn the water on for a few hours, and the result is that we soon have a green field.

Nearly all farm animals will eat alfalfa and grow fat on it, either in its green or dry state; thus, if it does not pay as a honey-plant where it will grow, it will pay as a fodder crop. Its only danger is bloat when fed in its green and wet state.

Salt Lake Co., Utah. E. S. LOVESY.

The Nickel Plate Road

changed time and also depots March 6, 1898. All trains now arrive and depart from Van Buren Street Station, near Clark St., Chicago. All trains on "L" loop stop at Nickel Plate Depot. City Ticket Offices, 111 Adams Street, and Auditorium Annex. Telephone Main 3389. (5) 11A2t

Convention Notices.

Texas.—The Texas State Bee-Keepers' Association will hold its annual convention at W. H. Graham & Son's, Greenville, Texas, the first Wednesday and Thursday in April, 1898. All interested are invited. W. H. WHITE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, April 5, 1898, at 10 a.m. A full program in the interest of the industry will be presented. It is very desirable to have all parts of the State represented. Among other things to be considered is the transportation and marketing of our products, and also the adoption of the best plan to represent our state at the Trans-Mississippi Exposition, and to get our new foul brood law into active operation. Every bee-keeper should be interested in these matters. All are cordially invited. In case there may be any that cannot attend, we would be pleased to have their address, and have them send in questions on general topics. Several members of the Association have desired us to again call the attention of our bee-keepers to the Langstroth monument fund. Any who feel able should throw in their mite to mark the last resting-place of this the greatest of all American bee-keepers. No one will feel as if it was labor in vain, who takes a fraternal interest in this desirable object.

JOHN B. FAGG, Sec., East Mill Creek, Utah.
E. S. LOVESY, Pres., Salt Lake City, Utah.

Chicago's Favorite Passenger Station.

Reasonable success seems to have followed the efforts of the management of the Nickel Plate Road to make it popular as a passenger line for travel East. It is regarded as a favorite by many in making the journey from Chicago to Eastern points.

Patrons of that line will be gratified to learn that arrangements have been made, effective Sunday, March 6, for all passenger trains of the Nickel Plate Road to arrive at and depart from the Van Buren St. Station in Chicago.

The many advantages afforded by this Great Union Depot, located in the heart of the business portion of Chicago, and the continued advantage afforded by lower rates than over other lines, having three Express Trains daily, with through Sleeping Cars to New York and Boston, and the advantage of superior Dining Car Service, when all considered, should show increase travel over the Nickel Plate Road. (8) 11A2



The twist is what makes the Kitzelman Fence famous. With our Duplex Automatic Machine you can make 100 styles and 60 rods per day of the Best Woven Wire Fences on Earth. Heavy-Spigh, Built-in, Field-Side.

FOR 18¢ PER ROD

Chicago from the Kitzelman Fence Co. for 12¢ per rod. Plain, Coiled Spring and Barbed Wire to farmers at wholesale prices. Catalogue FREE for the asking. Address: KITZELMAN BROTHERS, Box 138 Ridgeville, Indiana.

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Queens, Bees and Bee-Keepers' Supplies

Tested Queens in April and May, \$1.00. Untested, 75¢. Choice Breeders, either three or five-banded Italians, at \$2.00. Choice Imported Breeders, \$5.00. Satisfaction guaranteed. Send for Price-List to

F. A. CROWELL,

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METAL WHEELS

In all sizes and varieties, to fit any axle. They last forever. Either direct or stagger spoke. Can't break down; can't dry out; no resetting of tires. Good in dry weather as in wet weather. Send for catalog & prices. **ELECTRIC WHEEL CO.,** Box 16, QUINCY, ILL.

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Large Apiculture Establishment

[Established 1860] for the Rearing and Export of **Queen-Bees**—Pure, Selected Italian Kind. CAV. PROF. PIETRO PILATI, via Mazzini No. 70, BOLOGNA [ITALY.]

Price List: March, April, May, 1 Tested Queen, \$1.75; 6, \$9.25; 12, \$18. June, July, August, \$1.25, \$7, \$14. September, October, November, \$1, \$5.75, \$10. Orders must be prepaid and accompanied by Post-Office Money Orders. Please state Names, Addresses and Railway Stations in a legible manner. Should a queen-bee die during the journey, the same must be returned accompanied by a Post-Certificate, and another queen-bee will be sent immediately instead.

Please mention Bee Journal when writing.

Gardener and Bee-Keeper Wanted

On a Farm in New Hampshire. Must have experience in both lines. Good character and habits, sober, industrious and trustworthy. Engagement for six months or longer, beginning about April 1.

Address J. J. G., 1800 Prairie Ave., Chicago.

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FINE RESIDENCE FOR SALE AT A BARGAIN.

Comprising one of the best located apiaries in Wisconsin, known as Pleasant Grove Apiary. There are 3¼ acres of land, with a good house of 10 rooms finished in oak, hard-oil finish; barn, shop, a fine collection of fruit, 100 colonies of bees with all fixtures. Will be sold at a sacrifice, as I have business in the East, requiring me to sell. Correspondence solicited.

J. MESSINGER, Elroy, Juneau Co., Wis.

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TAKE THE BIG FOUR!

Prize-Winning Golden Italian Queens. Best Seed Corn in Ohio.

Seed Potatoes at living prices.

Choice Plymouth Rock Eggs.

Catalogue Free.

J. F. MICHAEL, Greenville, Ohio.

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BEES! Florida Italian QUEENS!

Tested Queens, \$1.00 each; Untested, 50¢. 2-Frame Nucleus of Bees with good Queen \$2. Prompt and satisfactory dealing.

Address, **E. L. CARRINGTON,**

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De Funiak Springs, Fla.

FOR SALE 100 colonies of stroth and Root's Dovetailed Hives. Will sell in lots to suit purchasers, and deliver on cars for shipment to any point. For further information address, J. W. HOWELL, Kenton, Tenn.

10A2t Please mention the Bee Journal.

HONEY and BEESWAX

MARKET QUOTATIONS.

Chicago, Ill., Mar. 8.—A little fancy white sells at 11c. if free from any indication of graining, but the majority of white honey sells at 10c., with off grades at 8 to 9c.; amber is not selling readily at 8c.; dark, 7 to 8c. Extracted, white, 5 to 6c.; amber, 4½ to 5c.; dark, 4c. Beeswax, 26 to 27c., and in active demand. The weather is now suitable for shipments of comb.

Milwaukee, Wis., Mar. 8.—Fancy, 11 to 12c.; A No. 1, 10 to 11c.; No. 1, 10 to 10½c.; No. 2, 9 to 10c.; amber and dark, 7 to 8c. Extracted, in barrels, kegs and cans, white, 5 to 6c.; dark, 4½ to 5c. Beeswax, 25 to 27c.

We are able to report an improved demand for fancy honey during the past few days, while the medium grades have also sold better, yet the surest sale is on the best. The supply continues equal to the demand, but the fancy grades are not in as good supply as the low and medium, which goes to prove that the fancy sells best—and the values better.

Buffalo, N. Y., Mar. 11.—There is a good demand for strictly fancy 1-pound comb, at 10 to 11c.; other grades, however, range from 9 to 7c., and even 6c. when poor enough. Quite an amount of honey can be sold at this range. Extracted ranges from 4 to 6c., with a moderate demand.

New York, N. Y., Feb. 9.—There has been a fair demand for comb honey of late, and we are gradually reducing our stock. Fancy white is scarce and finding ready sale at 10 to 11c.; off grades white and amber, 8 to 9c.; mixt and buckwheat, 6c. Extracted is in fair demand—California white, 5½c.; light amber, 5c.; white clover and basswood, 4½ to 5c.; buckwheat, 4c.; Southern, 50c. a gallon. Beeswax is steady at 26 to 27c.

Cincinnati, Ohio, Feb. 21.—There is a slow demand for all kinds of honey. We quote 10 to 13c. for best white comb honey, and 3 1-2 to 6c. for extracted. Beeswax is in fair demand at 20 to 25c. for good to choice yellow, with a fair supply.

Cleveland, Ohio, Feb. 22.—Fancy white, 12 to 13c.; No. 1, 11 to 12c.; No. 1 amber, 9 to 10c. Extracted, white, 6 to 6½c.; amber, 4 to 5c. Beeswax, 22 to 25c.

Kansas City, Mo., Feb. 19.—Fancy white comb, 1-lbs., 10c.; No. 1, 9 to 10c.; amber, 8 to 9c.; dark, 7 to 8c. Extracted, white, 5 to 5 1-2c.; amber, 4 1-2 to 5c.; dark, 4c. Beeswax, 20 to 22c.

The supply of honey is large and the demand light.

St. Louis, Mo., Feb. 9.—Fancy hite comb, 10 to 11c.; No. 1, 10c.; amber, 9 to 10c.; dark, 8 to 9c. Extracted, white, 5½ to 6c.; amber, 5 to 5½c.; dark, 4 to 4½c. Beeswax, 20 to 22c.

Detroit, Mich., Feb. 1.—Fancy white, 11 to 13c.; No. 1, 10 to 11c.; fancy amber, 9 to 10c.; No. 1, 8 to 9c. Darker grades are selling lower and in better supply and can be bought at 6 to 7c. Extracted, white, 5 to 6c.; darker grades, 4 to 5c. Beeswax is in good demand at 26 to 27c.

Indianapolis, Ind., Jan. 15.—Fancy white, 11 to 13c.; No. 1, 10 to 11c.; fancy amber, 9 to 10c. Extracted, white, 5 to 6c. Beeswax, 25 to 27c. Market appears to be well supplied and sales are rather slow for this time of the year. This is especially true of the amber and dark grades of comb honey. Beeswax is in good demand.

Boston, Mass., Jan. 18.—Fancy, in cartons, 12½ to 13c.; in glass, 11 to 12c.; A No. 1, 10 to 11c.; No. 1, 9c.; No. 2, 8c.; No. 3, no sale. Beeswax, 27c.

The demand for honey is light on all grades, with a full supply. Pure beeswax is in good demand, but supply is light.

Philadelphia, Pa., Jan. 18.—Fancy white, 10c.; No. 1, 9c.; amber, 8c. Extracted, white, 5c.; amber, 4c.; dark, 3½c. Beeswax, 28c. Late arrivals of California honey have demoralized our market.

Minneapolis, Minn., Jan. 31.—Market is in an overloaded condition on comb honey. Good chance for fancy white extracted at 5½ to 6c., but comb is at a standstill, particularly if other than fancy white. Best price available on fancy white comb is 10½c., and buyers are slow at that. Darker grades or broken lots are unsalable. If shippers would send in their extracted when it is wanted, and not push undesired comb [and vice versa] the stuff would move more advantageously to all concerned. The trouble is, when a fair price is obtainable some shippers hold out for more and in the end lose by it.



\$100

Given as Bounties to purchasers of the improved Danz Hives and Sections. See schedule in my bee-book "Facts About Bees." Tells

how to produce honey that sells for the most money. Free for 2c. in stamps. Address: **THE A. I. ROOT CO.,** Medina, Ohio, or F. DANZENBAKER, Box 466, Washington, D. C.

BEES, HONEY, MONEY

Queens for Business.
Supplies at Bottom Prices.

"Bee-Keeping for Beginners," price 50 cents, imparts the instruction. Price-List free.

J. P. H. BROWN, Augusta, Ga.



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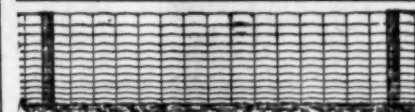
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& HOT PLATE FOUNDATION FASTENER.

This Press is of malleable iron and brass. Non-breakable chimney. Its speed equal to 4000 per day, or more, according to activity of operator. One closing and opening of gate finishes the section. Starters or full sheets. This year a Flat Egg-Tester goes with it. Write me if your supply dealer does not keep them in stock.

JAMES CORMAC,

DES MOINES, IOWA.



THIS WAR TALK

caused by Cuban troubles calls attention to our public defenses. Say, are your crops and pasture lots well fortified? Send us measurements and get our '08 prices. See our ad. in next issue.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

Please mention Bee Journal when writing.



BEE-KEEPERS' SUPPLIES!

Largest and Best equipt Factory in the

SOUTH-WEST.

Send for Catalog.

FRED A. DALTON,

1A26t WALKER, Vernon Co., Mo.

Please mention Bee Journal when writing.

Texas Queens

Best honey-gathering strain in America.

Tested, \$1.50. Untested, \$1.00. Write for a Circular.

J. D. GIVENS, Lisbon, Tex.

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SEE THAT WINK!

Bee-Supplies! Root's GOODS at Root's Prices.

Pounder's Honey-Jars, and every thing used by bee-keepers. Prompt service, low freight rate. Catalogue. **Walter S. Ponder,** 512 Mass. Ave., INDIANAPOLIS, INDIANA.



HATCH Chickens BY STEAM-

With the MODEL

EXCELSIOR Incubator

Simple, Perfect, Self-Regulating. Thousands in successful operation. Lowest priced

First-class Hatcher made.

Send 5c. for C.O.D. H. STALL.

114 to 122 S. 6th St., Quincy, Ill.

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Talk about ... Comb Foundation

WE can now furnish the very best that can be made from pure wax. Our New Process of **MILING** enables us to surpass the previous efforts of ourselves and others in the manufacture of Comb Foundation.

**It is always Pure and Sweet.
It is the kind that does not sag.
It is the kind you want.**

If you once try it you will have no other. Samples furnished **FREE**. Large illustrated Catalog of all kinds of

Bee-Keepers' Supplies,

And a copy of the American Bee-Keeper, sent upon application. Address,

**THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.**

NEW YORK, is the city,
105 Park Place, is the street,
I. J. STRINGHAM, is the man

Who is prepared to ship you, on short notice, **anything** in the apian line.

Are YOU the man who wants to buy?

Send for Catalog, anyway.
Please mention Bee Journal when writing.

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Of Bee-Hives, Sections, Shipping-Cases, Comb Foundation, and **Everything** used in the Bee-Industry.

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55 No. 5E.....".....	5.00	9.00	17.00
25 No. 5.....".....	6.00	11.00	21.00
15 No. 6E.....".....	4.00	7.00	13.00
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